

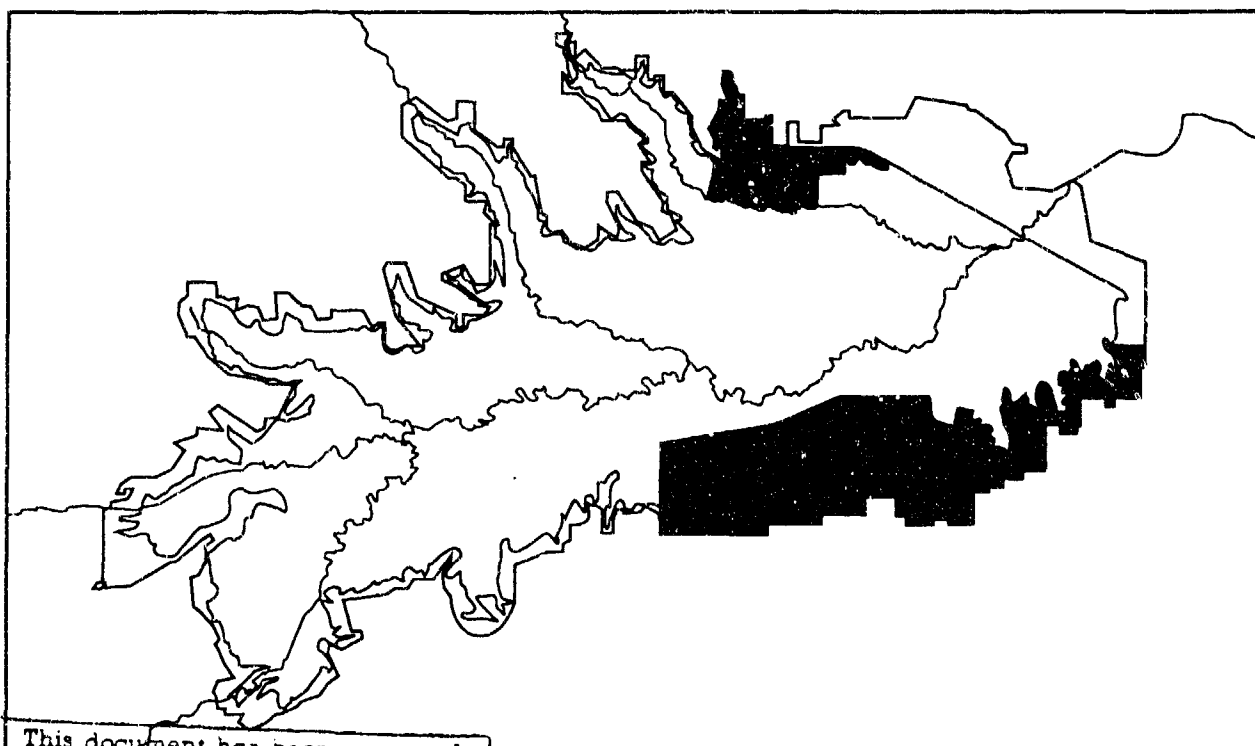
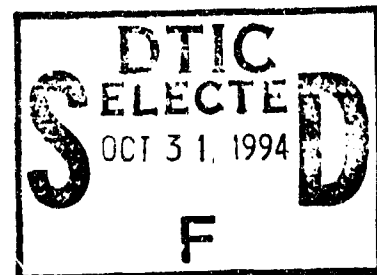
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# Archaeological Survey of Cooper Lake, Delivery Order Number 6, 1989

Cultural Resource Studies for Cooper Lake,  
Hopkins and Delta Counties, Texas

David H. Journey and Jeffery Bohlin



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<p>From April to August 1989, a cultural resource survey and preliminary site evaluation was conducted for a 1,885 ha (4,659 acre) area in the Cooper Lake project area, ca. 145 km (90 mi) northeast of Dallas, Texas. The study area includes two recreational areas, South Sulphur and Doctors Creek parks, proposed by the Texas Parks and Wildlife Department, as well as selected reservoir areas below 134 m (440 ft) in elevation. In total, 59 sites were evaluated, including 25 previously registered sites and 34 newly identified sites. Additionally, a geomorphological investigation was conducted within the Finley Branch Fan, and backhoe excavations were used to explore alluvial and colluvial landforms in the area. This report provides information on the extent, character, and archaeological integrity of each site. Assessments of each site's potential to yield information relevant to the Cooper Lake Research Design are also provided. The report concludes with cultural resource management recommendations for each site within the Delivery Order Number 6 study area.</p>					
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# **Archaeological Survey of Cooper Lake, Delivery Order Number 6, 1989**

## **Cultural Resource Studies for Cooper Lake, Hopkins and Delta Counties, Texas**

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**with contributions by**

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Jackie McElhaney, Catherine L. Pedler, and Frank Winchell**

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## Abstract

From April to August 1989, the Archaeology Research Program of the Department of Anthropology, Southern Methodist University, performed a cultural resource survey and preliminary site evaluation for a 1,885 ha (4,659 acre) area in the Cooper Lake project area, ca. 145 km (90 mi) northeast of Dallas, Texas. This work was conducted for the United States Army Corps of Engineers, Fort Worth District, under contract DACW 63-87-D-0017, Delivery Order Number 6.

The study area includes two recreational areas, South Sulphur and Doctors Creek parks, proposed by the Texas Parks and Wildlife Department, as well as selected reservoir areas below 134 m (440 ft) in elevation. In total, 59 sites were evaluated under Delivery Order Number 6, including 25 previously registered sites and 34 newly identified sites. Additionally, a geomorphological investigation was conducted within the Finley Branch Fan, and backhoe excavations were used to explore alluvial and colluvial landforms in the area.

A letter report was submitted following the initial investigations at the North Texas Municipal Water District intake facility at Finley Branch. A second letter report was submitted following the intensive survey of the South Sulphur and Doctors Creek parks, which included a predictive statement of the potential for buried sites based on the geomorphological investigations of Rolf Mandel, consulting geologist for the Delivery Order Number 6 survey. A master site location map, survey forms, and a summary of previously recorded sites were submitted separately to the Corps of Engineers.

The present report provides information on the extent, character, and archaeological integrity of each site. Assessments of each site's potential to yield information relevant to the Cooper Lake Research Design are also provided. The report concludes with cultural resource management recommendations for each site within the Delivery Order Number 6 study area.

## Management Summary

Cooper Lake is a manmade reservoir built by the United States Army Corps of Engineers, Fort Worth District, in Delta and Hopkins counties, Texas. It is located ca. 145 km (90 mi) northeast of Dallas, Texas. Its floodpool covers ca. 13,122 ha (32,400 acres), and the reservoir maintains its average level at an elevation of 440 ft (134 m) above msl during normal periods of precipitation. Fifty-nine archaeological sites are discussed and evaluated in this report. Twenty-four sites contain only prehistoric components, 21 have only historic period components, and 14 contain both prehistoric and historic components. Two prehistoric components, represented at sites 41HP102 and 41HP159, are recommended to be clearly eligible for the National Register of Historic Places (NRHP). Three prehistoric sites (i.e., 41HP172, 41HP174 and 41HP175), one historic site (i.e., 41HP177), and two prehistoric/historic sites (i.e., 41HP162 and 41DT154) are of undetermined NRHP eligibility. Further investigations and/or evaluations are recommended for these eight sites. Fifty-one archaeological sites are recommended to be clearly ineligible for the NRHP, and no further investigations are recommended for them.

The geoarchaeological investigations conducted in the Delivery Order Number 6 study area were concentrated on the Finley Branch alluvial fan. Geomorphological analysis and sediment profile descriptions were performed on the alluvial sediments in this area, which range up to 6.3 m (20.7 ft) in thickness. Backhoe and trackhoe excavations were performed along stream channels, floodplains, and slopes of Finley Branch, Branam Creek, Buggy Whip Creek, an unnamed tributary in the Posey to Harpers Crossing area, Doctors Creek, and Cannon Creek. These excavations were conducted to augment the geoarchaeological investigations for the Cooper Lake area and to determine whether archaeological sites are buried by sediments or obscured by vegetation in these areas.

In addition to these field studies, a search of original archives (census and death records, deed/tax records, General Land Office Surveys, 1936 Works Progress Administration Farm Surveys); informant interviews; and additional literature research for brick manufacture, early trails, immigration patterns, and ethnic investigation were conducted by Jackie McElhaney, consulting historian. Informants provided identities of former residents (landowners and tenants) on some archaeological sites. However, since much of the land in the study area had been owned by absentee landlords at some time in the past, some former residents of archaeological sites could not be identified through archival research or informant interviews.

The work conducted under Delivery Order Number 6 is part of the on-going evaluation and treatment of cultural resources being affected by the construction of Cooper Lake. This report presents the results of intensive survey of 1,885 ha (4,659 acres), or less than 15% of the entire Cooper Lake project area.



## Acknowledgments

This project was made possible through the combined efforts of many people who participated in field, laboratory, and report production phases of the project. First the authors wish to thank the staff and officers of the U.S. Army Corps of Engineers, Fort Worth District. Specifically, Karen Scott, Erwin Roemer, and Daniel McGregor of the Environmental Resources Branch aided in all phases of contract implementation and project reviews. Other Corps staff who provided assistance were Paul McGuff, Jay Newman, Jerry Spraggins, Onie Hale, and the late Kenneth "Scott" Bain.

The fieldwork was directed by Jeffery Bohlin, who was assisted by Fergus Flaherty, David Sanders, John Mark Sheppard, William Young, Kent Smolik, and Rob Mann. The laboratory work was directed by Mary Ellen Kendrick, who was assisted by Carole Medlar, Sylvia Renya, and Valentina Martinez. Dr. Rolfe Mandel preformed the geoarchaeological investigations. Jackie McElhaney conducted informant interviews and additional archival research.

The final report has benefitted immensely from the comments and information provided by Dr. J. M. Adovasio, Dr. Raymond Buyce, K. J. Shaunessy, and D. R. Pedler. The prehistoric collections were reexamined by C. L. Pedler. Preliminary drafts of this report were produced with the help of Mary Ellen Kendrick, Brenda A. S. Cole, Maria Masucci, Melissa Green, and Ranjini Kandyil. The final report was edited by D. R. Pedler and assembled with the assistance of K. Shipherd, C. L. Pedler, D. C. Hyland, and H. M. Hyland. All drafting was prepared by Mitch Stokely.

Local historians and interested citizens greatly contributed to this effort. Mr. John Banks and Doug Albright of Cooper; Kenneth Cockrum, Boyd and Rose Glossup, and Velma Shaw of Hopkins County; Mamie Jones Crawford of Klondike; and Harlan Craig of Horton all provided valuable information. We graciously acknowledge the many citizens of Hopkins and Delta counties who aided in the many phases of this work.

# Introduction

# 1

The Cooper Lake Project was authorized by an act of Congress approved on 3 August 1955 (Public Law 218, Chapter 501, 84th Congress, 1st Session). The Fort Worth District, U.S. Army Corps of Engineers (CE) is constructing this multipurpose dam and lake project for flood control, water supply, and recreation. The lake is located 2.5 km (4 mi) south of the town of Cooper, in Delta and Hopkins counties, Texas, at river mile 23.2 (37.3 km) on the South Sulphur River. The study area is shown on the USGS Cooper South, Cumby, Klondike, and Tira, Texas, 7.5' topographic quadrangles.

The conservation pool covers 7,812.7 ha (19,305 acres), extending 33.7 km (21 mi) upriver at an elevation of 134.1 m (440 ft) above mean sea level (msl), and the flood control pool covers 9,202.9 ha (22,740 acres; 30-year frequency) at 136 m (446.2 ft) above msl. Seven recreational facilities may cover an estimated 1,335.8 ha (3,300 acres), and structures will occupy 372.3 ha (920 acres). A levee will be required 1.4 km (0.9 mi) downstream from the dam. The guide-taking line for the project is at 137.5 m (451.2 ft) above msl. A total area of 18,723.4 ha (46,265 acres) is included in the project impact area.

Although Cooper Lake has received archaeological investigations spanning over four decades, there has not been an equally intensive archaeological survey of the entire landscape. Nor

have all archaeological sites (particularly those of the Historic and Archaic periods) been equally recorded, despite evidence for their presence in the reservoir. The historic sites have not been equally recorded simply due to a lack of systematic survey and recordation procedures. During the 1970s, for example, most historic sites were simply written off as being disturbed or less than 50 years old, despite archaeological and historical evidence to the contrary. The Archaic period sites, on the other hand, have not been equally recorded because some are deeply buried, which has resulted in an erroneous "common knowledge" of an apparently low-density population in the Cooper Lake area during this period. Following provisions of the National Historic Preservation Act of 1966, as amended, and beginning in 1986, the CE has been conducting an inventory and evaluation of cultural resources, followed by actions to mitigate (alleviate) the adverse effects of the project on these resources.

The Cooper Lake project area has been determined to be eligible as a National Register district, with nine properties (41DT1, 41DT6, 41DT16, 41DT35, 41DT37, 41DT52, 41DT80, 41HP102, 41HP105) designated as multiple resources. Other sites designated as multiple resources may be added to the district as investigations continue.

This report presents descriptions of an

archaeological survey that documents cultural properties in the 1,102.4 ha (2,724 acre) South Sulphur Park and the 121.4 ha (300 acre) Doctors Creek Park, as well as two parcels of 243 ha and 419 ha (600 and 1,035 acres), respectively, within the floodpool adjacent to these parks. All park properties are located above 134 m (440 ft) above msl, the floodpool level for Cooper Lake. These proposed park areas are scheduled to be leased to the Texas Parks and Wildlife Department (TPWD). Recreation facilities, including boat ramps, roads, and picnic facilities are planned for these areas, which will greatly alter the present landscape.

In addition, a water intake facility west of Finley Branch is proposed by the North Texas Municipal Water District. Initial plans were for archaeological clearance of a 152.4 m (500 ft) corridor from the facility to the South Sulphur River, a distance of 1.6 km (1 mi), including large parcels for the storage of spoil dirt. This area received extensive subsurface investigations using trackhoe, backhoe, and hand excavations. A geological investigation was also focused in this area.

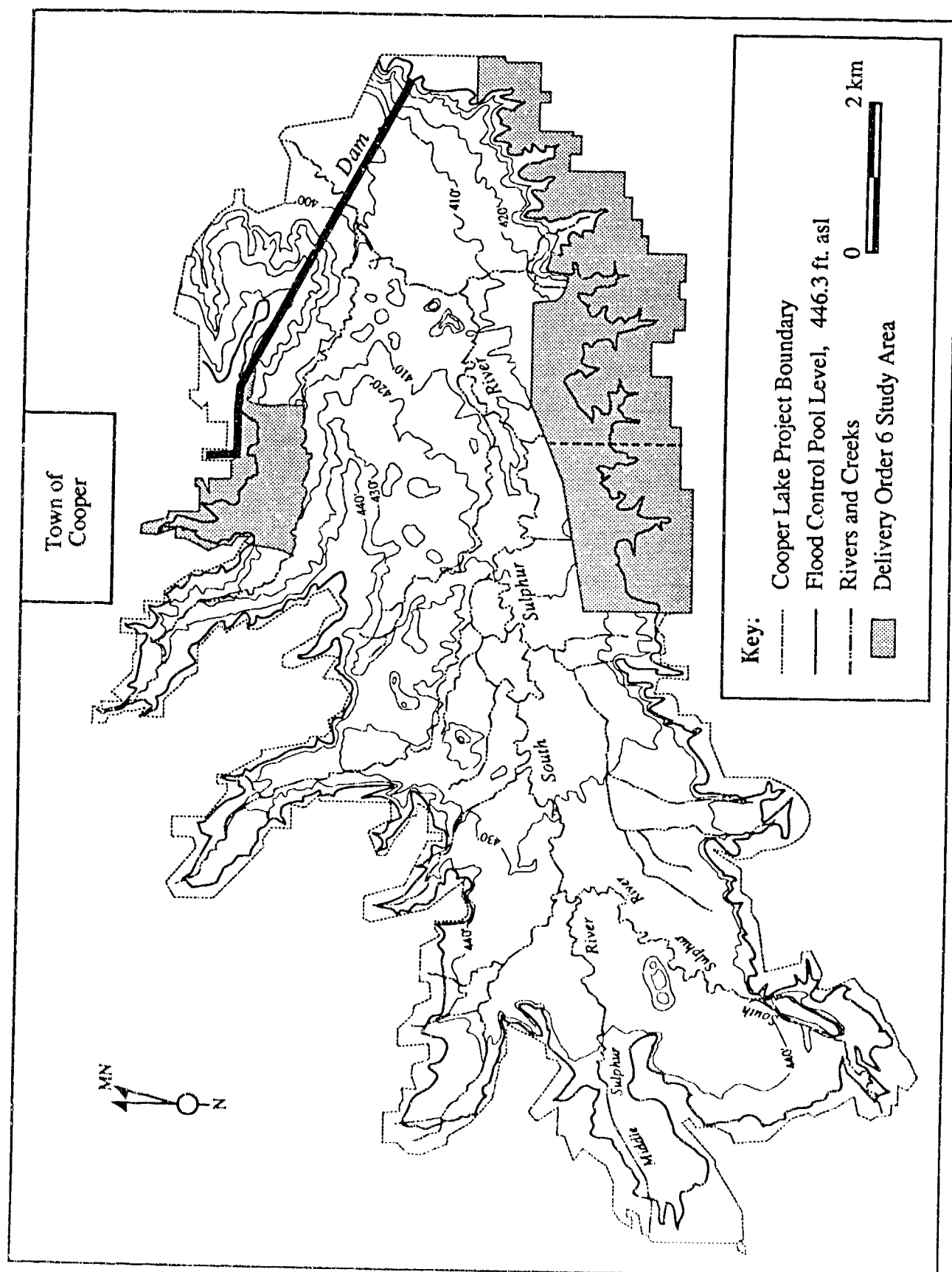
The Cooper Lake Delivery Order Number 6 investigations (Figure 1-1) represent a portion of the overall archaeological assessment of Cooper Lake. In this study, the known extent of surface and subsurface deposits and the nature of certain archaeological features were determined for 25 sites that had been previously recorded. In addition, 34 new sites were discovered. All cultural properties were evaluated for their potential to address questions outlined in the Research Design, and their eligibility to the National Register under Criteria A, B, C, and D.

Because this report presents the findings of the archaeological survey of only a small portion of the entire Cooper Lake project area and is intended as a descriptive summary of the current research, the reader is referred to the various other Cooper Lake documents for more extensive treatment of the project background. The Research Design (Moir and Jurney 1988) establishes the historic contexts and research themes. Survey, testing, and mitigation reports by the University of North Texas (UNT) have been completed for the

dam axis area (Perttula 1988a, 1988b, 1989b). In addition, extended informant interviews have been conducted by UNT (Lebo 1988; Parish and Perttula 1988), supplementing those conducted by SMU. A major report on the embankment area is also undergoing final editing (Moir, McGregor, and Jurney 1993), and a report on the disinterment of a historic cemetery (41DT105) is complete (Winchell, Rose, and Moir 1992). In addition, geoarchaeological studies have been performed by Bousman, Collins, and Perttula (1988) and Ferring (1993). These reports discuss the project background in greater detail than the present one, which is merely a descriptive summary of the current research.

This report does include a brief summary of previous research in the study area and the Research Design for the current work. The methodology follows the specifications of the main contract (DACW63-87-D-0017) and the Research Design (Moir and Jurney 1988), and is briefly summarized as it applies to the current work order. Geoarchaeological studies were performed by Dr. Rolfe Mandel and Dr. S. Christopher Jaran, and these synopses of current knowledge and future studies are presented in Chapter 6. The historical, archival, and informant investigations were performed by Jackie McElhaney and are summarized in Chapter 7. As specified in the scope of work for Delivery Order Number 6, these historical investigations were to be focused on the compilation of a working set of documents to be used for the interpretation of historic sites in the current project area, as well as on unsurveyed portions of the reservoir. Since a narrative was not required, Chapter 7 represents the synthesis of only the information directly applicable to the current project area. The basic site descriptions are presented in Chapter 8.

More detailed information and data can be found in the attached appendices. Appendix A presents the projectile point illustrations and a summary of their metrical attributes, and provides a brief overview of lithic technology at three sites. Appendix B presents a detailed ceramic analysis, following the methodology established by Cliff, Perttula, and Winchell (1993).



# Description of the Delivery Order Number 6 Study Area

# 2

## INTRODUCTION

Cooper Lake is located south of the town of Cooper within the upper drainage of the Sulphur River. This area is characterized as an interface between the Oak-Hickory Forest and Blackland Prairie (Figure 2-1). Microenvironmental zones on this interface in the vicinity of Cooper Lake include marshes, floodplain forest, slope forest, upland post oak forest, and tallgrass prairie. The boundaries of this complex set of ecological systems have apparently fluctuated in response to major climatic shifts in the past. Today's rainfall averages over 101 cm (40 in) per year, and winter temperatures are mild.

Cooper Lake is bordered by two large geological divisions, the Navarro group (Kemp clay, Corsicana marl, Nacatoch sand, and Neylandville marl) on the north, and by the Midway group (Wills Point clay and Kincaid formation) on the south. These groups are composed of silty clays and sandstone rocks deposited under marine conditions over 200 million years ago during the upper Cretaceous (Navarro group) and the lower Eocene (Midway group). These geological strata consist of folded bands which traverse the land from the southwest to the northeast. A fault zone is present in the area, and the drainage of the South Sulphur River is determined in part by this fault pattern. This

fault, defined as a "graben," may have contributed to the formation of the alluvial fan along Finley Branch (Reid Ferring, personal communication 1989). A graben is a structurally defined block of land down-thrown between parallel faults.

The geological formations themselves do not yield lithic raw materials of a quality sufficient for the manufacture of prehistoric tools or for use in historic architecture. There is no *in situ* chert. An erosional remnant, the Uva de gravel, is present in the uplands of Hopkins County south of the South Sulphur River and in limited areas of the upper drainages of tributary streams north of the Cooper Lake study area. These veneer deposits contain variable quantities of quartzite, chert, and petrified wood. All occurrences of these gravels on prehistoric and historic sites (e.g., 41HP158, 41HP173, 41HP174, 41HP175, 41HP176, and 41HP177) within the Delivery Order Number 6 survey area were systematically mapped. This survey, in combination with the lithic source study currently being prepared by Banks (n.d., 1990), provides representative coverage of all lithic sources available to prehistoric peoples in the greater Cooper Lake region.

The clay bedrock was used in some areas north of the Sulphur River (e.g., site 41DT154) for the manufacture of brick. Although this clay may also have been used for prehistoric pottery, no clay sourcing studies have been authorized

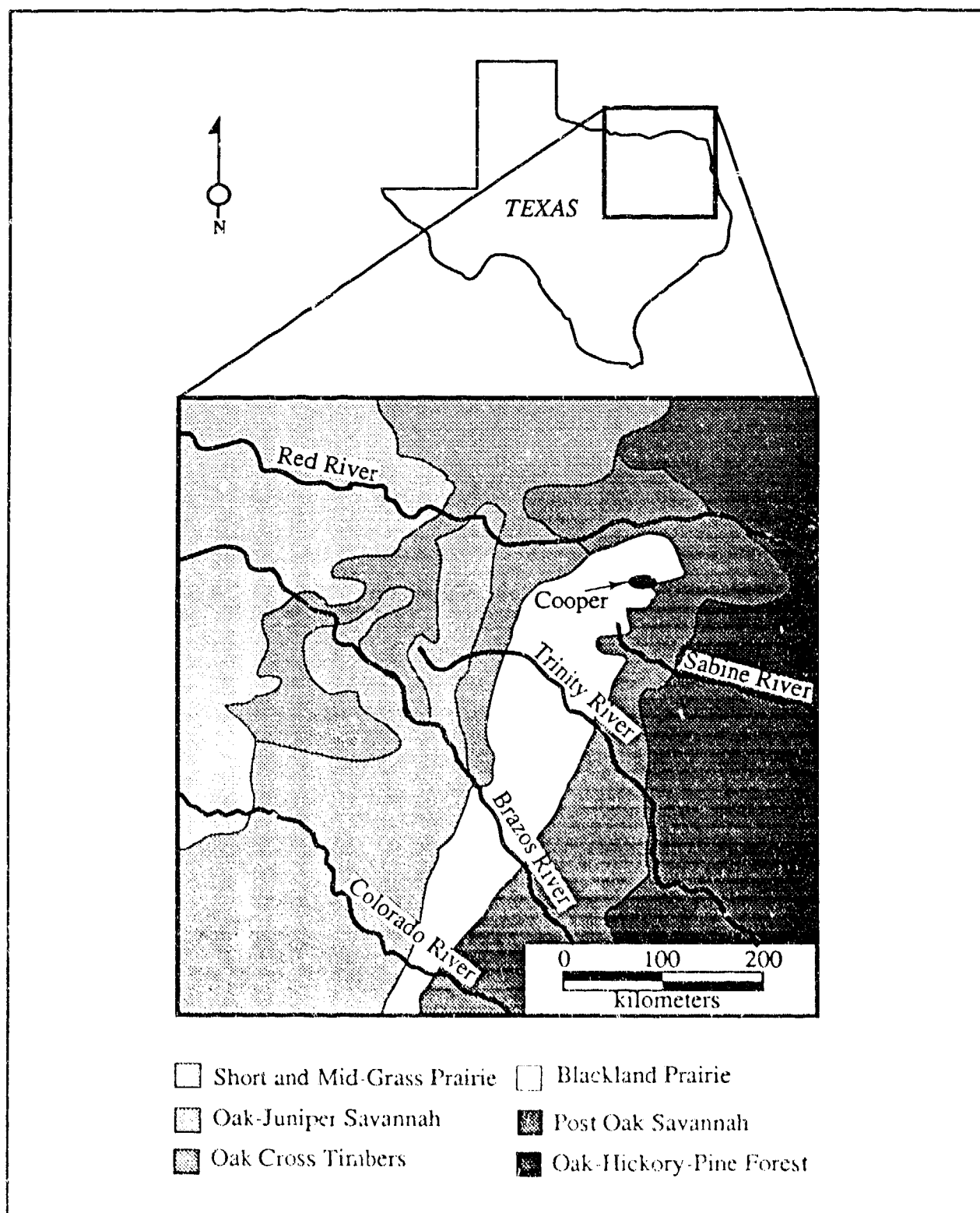


Figure 2-1. The location of Cooper Lake in relation to the biotic provinces of North Texas (after Küchler 1964). Cooper Lake is shown on the eastern boundary of the Blackland Prairie, where that biotic province interdigitates with the Post Oak Savannah.

within any of the Cooper Lake work orders.

Within the broader Oak-Hickory Forest and Blackland Prairie biotic provinces, there can be differentiated six topographic and vegetational communities which represent the major environments used by historic and prehistoric peoples. Each biome has, or had, distinctive fauna that were associated with these environments. These zones are also present in the Delivery Order Number 6 study area, but due to modern alterations to the environment, they cannot be mapped completely and do not represent the presettlement landscape and vegetation. Therefore, General Land Office (GLO) records and paleoenvironmental data are the only means of reconstructing the native vegetation. Descriptions of the past and present environmental zones located in the project area are presented below.

Topographically, the three major landforms represented in the Cooper Lake study area are uplands, slopes, and floodplains. Within the uplands, the Post Oak Forest, Post Oak Savannah, and Prairie vegetational communities once existed, based on the GLO evidence. Along slopes, the dominant groundcover was once hardwood forest, but these areas have been extensively cleared for agriculture. Within the floodplain along stream channels, hardwood forest and small pockets of seasonally inundated prairies were once present, but have been drained by channelization projects and cleared for agriculture.

The Texas GLO records provide information on the distributions of the prairie-forest boundary and the tree species composition of the presettlement landscape. These GLO files for the Cooper Lake study area were sampled in order to provide a baseline environmental model for the presettlement vegetation zones. As is noted in the research design formulated for the Cooper Lake project (Moir and Jurney 1988), hereafter referred to as the "Research Design," the GLO records contrast markedly with the 1975 vegetational study of Cooper Lake conducted by Cleveland (1975). Since modern land-use practices have completely altered the presettlement vegetation communities, the GLO records comprise the major retrodictive method by which original plant communities can be reconstructed.

Table 2-1 lists the frequencies of tree species noted within the three major forested topographic

settings of upland, slope, and floodplain (employing the direct gradient method) at Cooper Lake as well as those noted within the upland prairie, with its highly scattered saplings and trees.

In all, there are approximately 110 GLO tracts in the Cooper Lake project area, and the data in Table 2-1 were derived from 67 tracts within or adjacent to the reservoir. This sample consists of a total of 502 data points (i.e., land tract corners where "witness trees" were observed). In all, 42 (8.3%) fell in pure prairie areas and an additional 50 (9.9%) fell in prairie areas with dispersed trees.

TABLE 2-1

Frequencies of Tree Species within Major Topographic Zones at Cooper Lake

Tree Species	Upland	Slope	Floodplain Bottom	Prairie
Ash	—	7	39	3
Blackjack Oak	13	16	6	10
Bois d'Arc	—	—	6	—
Box Alder	—	—	—	1
Bur Oak	—	—	4	—
Cottonwood	—	—	1	—
Elm	—	12	47	11
Gum Bumelia	1	—	2	—
Hackberry	1	4	13	5
Hickory	8	29	18	4
Locust	—	—	1	2
Mulberry	—	—	1	—
Overcup Oak	—	1	4	—
Pecan	—	—	2	—
Post Oak	46	29	34	12
Red Oak	5	6	21	1
Red Haw	—	—	3	1
Spanish Oak	4	1	8	—
Walnut	—	1	1	—
Water Oak	2	—	21	—
Wild China	—	—	1	—
Willow	—	—	2	—
Total	80	106	235	50

SOURCE: General Land Office records.

## ENVIRONMENTAL ZONES

### Blackland Prairie

The Blackland Prairie environmental zone is associated with several geological strata including the Eagle Ford shale, Austin chalk, and Taylor marl, which have produced calcareous, clayey soils. These strata outcrop north of the South Sulphur River. To the south, the Eocene deposits of the Miway group have produced upland soils that are mostly dark, calcareous clays derived from the underlying clay, marl, shale, and chalky limestone and other bedrock materials. The low permeability and high shrink-swell capacity of Blackland clay soils have inhibited tree growth, except along streams and valley slopes.

The Blackland Prairie has been called a part of the Tall Grass Prairie (Blair 1950:100) and the True Prairie (Gould 1969:10). Little bluestem is the climax dominant along with big bluestem, Indian grass, switch grass, sideoats grama, hairy grama, eastern grama, tall dropseed, silver bluestem, and Texas wintergrass. A wide variety of *Compositae* and *Chenopodiaceae* species are also found in this plant community.

Animal species which once frequented this environmental zone include bison, pronghorn antelope, white-tailed deer, prairie chicken, and predatory species such as wolves and coyotes. During the early Historic period herds of horses and cattle competed with bison for forage, but wild animals were extirpated soon after settlement in the 1840s. The Delta County Centennial Publication (1970) reports that wild burros roamed the thick woodlands in Jernigans thicket and the dense floodplain forest at the confluence of the Middle Sulphur and South Sulphur rivers.

As noted above, 8% of the GLO sample of land tract corners fell in pure prairie plant communities (see Table 2-1), and trees were observed in an additional 9.9% of the land tract corners situated in prairie areas. These trees frequently were multiple-stemmed saplings. In all, 50 trees (10 species) were recorded in prairie areas.

The dominant species in prairie areas included post oak (24%), elm (22%), and blackjack oak (20%). Other tree species included hackberry (10%), hickory (8%), ash (6%), locust

(4%), and red oak, box elder, and red haw (2% each). Although these trees were highly dispersed, these data indicate the presence of mast producers and trees suitable for foraging by deer, antelope, and bison.

The modern vegetational study conducted by Cleveland (1975) indicates that hackberry has become the dominant species in all topographic zones as a result of historic alterations to tree species.

### Post Oak Forest and Savannah

The Post Oak Forest vegetational zone is located along the periphery of the upland prairies. North of the South Sulphur River the interface between the two can be characterized as a savannah. The Post Oak Savannah north of the South Sulphur River fringes a broad upland prairie in Delta County. This area is characterized by pimple mound fields (see Chapter 6) and soils of the Freestone-Hicota. Crockett sandy loams and Wilson clay loams are also present. In our entire survey of this area, only very few discrete, low-density deposits of Uvalde veneer gravel were encountered north of the South Sulphur River. However, small, thin deposits of these gravels are known north of the South Sulphur River, outside of the Delivery Order Number 6 study area.

The Post Oak Savannah consists primarily of post oak trees with a substantial grass understory. South of the South Sulphur River, the Post Oak Savannah grades into a true upland forest and Uvalde gravels are encountered frequently. Other tree species of the forest and savannah include blackjack oak, hickory, hackberry, and elm. Studies of overstory and understory vegetation indicate a species composition of over 63% post oak and 29% blackjack oak, and lesser proportions of big bluestem, Indian grass, sideoats grama, tall dropseed, and hairy grama (Dyksterhuis 1948; Marcy 1982:109). Although these studies are from cross timbers located ca. 129 km (80 mi) west of Cooper Lake, they provide detailed data from the same latitude and a similar environmental setting, and are thus comparable to the study area.

The GLO records for the Post Oak (upland) Forest included 80 trees (eight species; see Table 2-1) which were located in this setting. The dominant species were post oak (57.5%) and



blackjack oak (16.3%). Other incidental species included hickory (10%), red oak (6.3%), Spanish oak (5%), water oak (2.5%), and hackberry and gum bumelia (1.3% each). The Post Oak Forest and Post Oak Savannah, although relatively limited in extent, provided a high proportion of the nuts most available for foraging animals (e.g., bear, deer, squirrels, etc.) and humans.

The Post Oak Forest and Savannah zone provided both nuts and grasses for human and animal forage. Animal species included white-tailed deer, raccoon, bear, wild turkey, cottontail rabbit, and squirrel. Some prairie species such as bison probably foraged in the savannah during periods of climatic stress or perturbations in migratory patterns.

### Slope Forest

The forest composition at this vegetational zone is similar to that of the Post Oak Forest and Savannah. However, the gradient of this zone created a different set of soil conditions that produced a separate ecology from that of the Post Oak Forest or Savannah. Grasses comprise less of the understory, and the forest cover is denser than the upland forest. Also, north-facing slopes, especially those along the valley wall south of the South Sulphur River, are characterized as mesic (i.e., marked by greater effective moisture than surrounding areas). Hickory trees and other species such as ash, hackberry, and elm are represented in higher percentages than in the Post Oak Forest and Savannah. This habitat was less productive than the Post Oak Savannah, but similar animal species were present.

The GLO data indicate that post oaks and hickories were the co-dominant species in the slope forest (see Table 2-1), each comprising 27.4% of all observed trees (referred to as "witness trees" in the field surveyor's notes). Ten tree species were noted. Blackjack oak (15.1%) and elm (11.3%) were of secondary importance. Other incidental species included ash (6.6%), red oak (5.7%), hackberry (3.8%), as well as overcup oak, Spanish oak, and walnut (0.9% each).

### Floodplain Forest

All topographic areas falling within the

floodplains of the South Sulphur River and its tributaries were characterized by a totally different environmental regime than the other vegetational zones. The analysis of stream and river vegetation communities in the Cooper Lake area has not received great attention. Generally, the overstory consists of elm and hackberry with other associated species. A significant component of the floodplain forest, as indicated in the notes of the original land surveyors, was bois d'arc.

The economic importance of bois d'arc to prehistoric and historic peoples was substantial. The Caddo traded this wood to Plains groups for use as bows (Gregory 1973; Webb and Gregory 1978:19). Historic settlers found the wood ideal for fences, foundations, and even roadbeds. The species was cultivated for use in fences and foundation piers (Jurney 1988a:170-176, 1988b, 1988c:148), and its distribution was greatly expanded by the end of the nineteenth century (Jurney 1988b:176). Since the Floodplain Forest was relatively dense (except for small prairies), many grazing animals were not present. Bear and white-tailed deer were the dominant species.

The GLO sample from this vegetational zone comprised the largest number of species (21) and trees (235) in the Cooper Lake area (see Table 2-1). The dominant species were elm (20%), ash (16.6%), and post oak (14.5%). Other tree species which were of secondary importance include water oak and red oak (8.9% each), hickory (7.7%), and hackberry (5.5%). Incidental tree species included Spanish oak (3.4%); blackjack oak and bois d'arc (2.6% each); bur oak and overcup oak (1.7% each); red haw (1.3%); willow, gum bumelia, and pecan (0.9% each); and cottonwood, locust, mulberry, wild china, and walnut (0.4% each). The wide variety and concentration of fruit- and nut-bearing trees in the floodplain forest made this the richest environmental zone in the greater Cooper Lake area.

### Floodplain Prairies

These areas are generally very small and are not shown on regional vegetation maps. Often these areas are shown as marshes on soil surveys and USGS maps. Areas that once contained floodplain prairies were seasonally inundated. No studies of the species composition of this

vegetational zone are known for northeastern Texas. These areas were dominated by tall grasses, and served to attract waterfowl and aquatic animal species. Since the South Sulphur River was channelized and a levee was constructed ca. 1914–1925, many of these small prairies have been destroyed and cultivated. During periods of intense flooding, these areas remain under standing water for several weeks. None of the GLO surveys (land tract corners) in the Cooper Lake area fell in a floodplain prairie setting.

### Sloughs and River Channels

The South Sulphur River has an extremely broad, underfit floodplain. Relict channels and oxbows, or meander cutoffs, are common in the project area. Dominant tree species are primarily ash, hackberry, sycamore, and cottonwood. Although this environmental zone is rich in species diversity, the dominant nut-producing species such as overcup oak and pecan are relatively rare in its native state. Some pecan stands have been planted and cultivated during the Historic period.

The most common animal species associated with sloughs and river channels include fish, turtles, and amphibians. Other animals include black bear, cougar, white-tailed deer, and smaller mammals such as opossum and raccoon, which were also present in the floodplain forest. These mammals were present in these areas because they were the primary sources of water, particularly during dry periods. All species from other vegetation zones needed this resource to survive.

### PALEOENVIRONMENT

The paleoenvironmental reconstruction of the Upper Trinity River Basin presented by Ferring (1986) provides the most specific model of landscape evolution for northern Texas. Ferring (1986:98) reconstructed a series of fluvial aggradation-incision cycles from the Elm Fork Trinity River, White Rock Creek, and the Trinity River, dating from ca. 70,000 B.P. to the present. This area is located ca. 129 km (80 mi) west of Cooper Lake, at the same latitude, and has undergone similar geological processes.

From 70,000 B.P. to 25,000 B.P. there was

an apparent incision episode during the greater part of the Wisconsin glacialation. During late Wisconsin times, there was an aggradation-stability episode which lasted from ca. 25,000 B.P. to 20,000 B.P., followed by another incision episode from 20,000 B.P. to 15,000 B.P. Present finds of mammoth, mastodon, and other extinct fauna in base level stream gravel of the North Fork of the Sulphur River drainage appear to date to this period. This period was followed by another aggradation episode beginning at 15,000 B.P. and lasting to present times.

The reconstructed climatic trends for the last 1,800 years (adapted from Perttula et al. 1986:29–30) are shown in Figure 2-2. The data used for this reconstruction are derived from several studies along the Southern Plains periphery, and include palynological, faunal, geomorphological, and archaeological investigations (Wendland and Bryson 1974; Wendland 1978; Albert 1981; Hall 1980; Reid and Artz 1984; Ferring 1982; Bruseth et al. 1987; Dillehay 1974). Significant contradictions exist in the data sets, most likely due to the specialized information contained in each reconstruction and the localized conditions of the various study areas. Also, the climatic regimes for each of these study areas are quite different. In addition, the spatial and chronological control for each data set is relatively poor. Modern studies of pollen rain, for example, indicate quite different patterns in similar environments. However, the studies listed above are the only data presently available for the Cooper Lake area, and taken together they point to major climatic fluctuations in similar environments and latitudes in northern Texas and southern Oklahoma.

A single pollen sequence for the study area is available from nearby Buck Creek Marsh (Holloway 1985). A single radiocarbon date of  $1775 \pm 110$  B.P. (A.D.  $175 \pm 110$ ) was obtained from the 80 cm (3.5 in) level of this marsh (Bruseth, Raab, and McGregor 1987:40–43). Based primarily on supposition and comparison with better-dated contexts elsewhere in Texas, oak, pecan-hickory, and grass dominate between 1775 B.P. (A.D. 175) and 1300 B.P. (A.D. 650; Holloway 1985). By ca. 870 B.P. (A.D. 1080) pine pollen attains a high level and grass decreases, which is thought to represent the

A.D.	Climatic Episodes Southern Plains 1	Great Plains 2	Ferndale Bog Southcentral Oklahoma 3	Northeast Oklahoma Hall 4	Northeast Oklahoma Caney River 5	Southwest Oklahoma Delaware Canyon 6	Blackland Prairie 7	Southern Plains Bison Model 8
1800	Neo- Boreal	Cooler	Drier	Drier, increase in pine	Arid	Increased aridity	Increased aridity	Bison Present
1700			Increase in moisture					
1600								
1500	Pacific	Dry Droughty	Closed Forest	Moist	Climatic/ fluvial transistion	Moister	Decreased moisture	Bison absent
1400			Drier					
1300								
1200	Neo- Atlantic	Warm, moist	Closed forest, more moisture	Moist	Decrease in available moisture	Drier	More mesic moisture	Bison present
1100								
1000								
900	Scandic	Warmer	Open forest	Drier, Oak Savannah	Increase in moisture	Moist		
800								
700								
600	Sub- Atlantic	Deterior- ation						
500								
400								
300								
200								
100								
0								

Reference Legend

1 Wendland and Bryson (1974); 2 Wendland (1978); 3 Albert (1981); 4 Hall (1980); 5 Reid and Artz (1984); 6 Ferring (1982); 7 Bruseth et al. (1987); 8 Dillehay (1974).

Figure 2-2. Schematic diagram showing the late Holocene environmental record from selected locales on the Southern Plains periphery (adapted from Pertulla et al. 1986:29-30).

replacement of oak-hickory savannah by oak-pine forest.

Buck Creek Marsh was revisited as a part of a Southern Methodist University class project (Geology 5369) in 1987. The area that was collected previously (Holloway 1985) had been channelized extensively and was no longer suitable for palynological sampling. Instead, a more

pristine locality ca. 3.2 km (2 mi) west of the previous location, still within Buck Creek Marsh, was visited, and a 1.5 m (4.9 ft) core was collected (Counce et al. 1987). A distinct peak of non-arboreal pollen was noted 70-110 cm (27.6-43.3 in) and 120-140 cm (47.2-55.1 in) below the surface. Arboreal pollen peaked at the bottom of the column (150 cm; 59.1 in) and remained low

until 50-60 cm (19.7-23.6 in), with the greatest proportion being 20 cm (7.9 in) below the surface. Dominant tree species include *Quercus* sp., *Pinus* spp., and *Salix* sp. Unfortunately, detailed pollen analysis was not conducted, and no radiocarbon dates were submitted. This project, however, did indicate that longer, more comprehensive cores are present in other areas of Buck Creek Marsh, and further studies may improve the current pollen sequence.

Texas is one of the most drought-prone regions of the United States (Karl and Koscielney 1982; Diaz 1983; Stahle, Cleaveland, and Hehr 1988:59-74). Recently, nine climate-sensitive tree-ring chronologies derived from old-age stands of post oak trees were used to reconstruct the Palmer Drought Severity Index (PDSI; Palmer 1965) for the month of June in two large regions in southern and northern Texas (Figure 2-3), creating a chronology extending from 252 B.P (A.D. 1698)

to A.D. 1980 (Stahle, Cleaveland, and Hehr 1988:54-60). The June PDSI correlates to the season of maximum plant growth, and serves as an indirect measure of agricultural potential and potential annual biomass yield.

One of the most difficult problems with the use of proxy tree-ring paleoclimatic data is that only a part of the tree-growth signal can be explained by climatic change. As noted above, the highest correlation between tree growth is with the PDSI and, to a lesser extent, streamflow and temperature. Due to microenvironmental factors, paleoclimatologists employing tree-ring data use regional networks to refine the climatic signals in reconstructions that are based on linear or multiple regression models (Anderson, Stahle, and Cleaveland 1990:4). Such models, when highly integrated and correlated, as they are in Texas (Stahle, Cleaveland, and Hehr 1988), have greater validity than single-site reconstructions. Therefore,

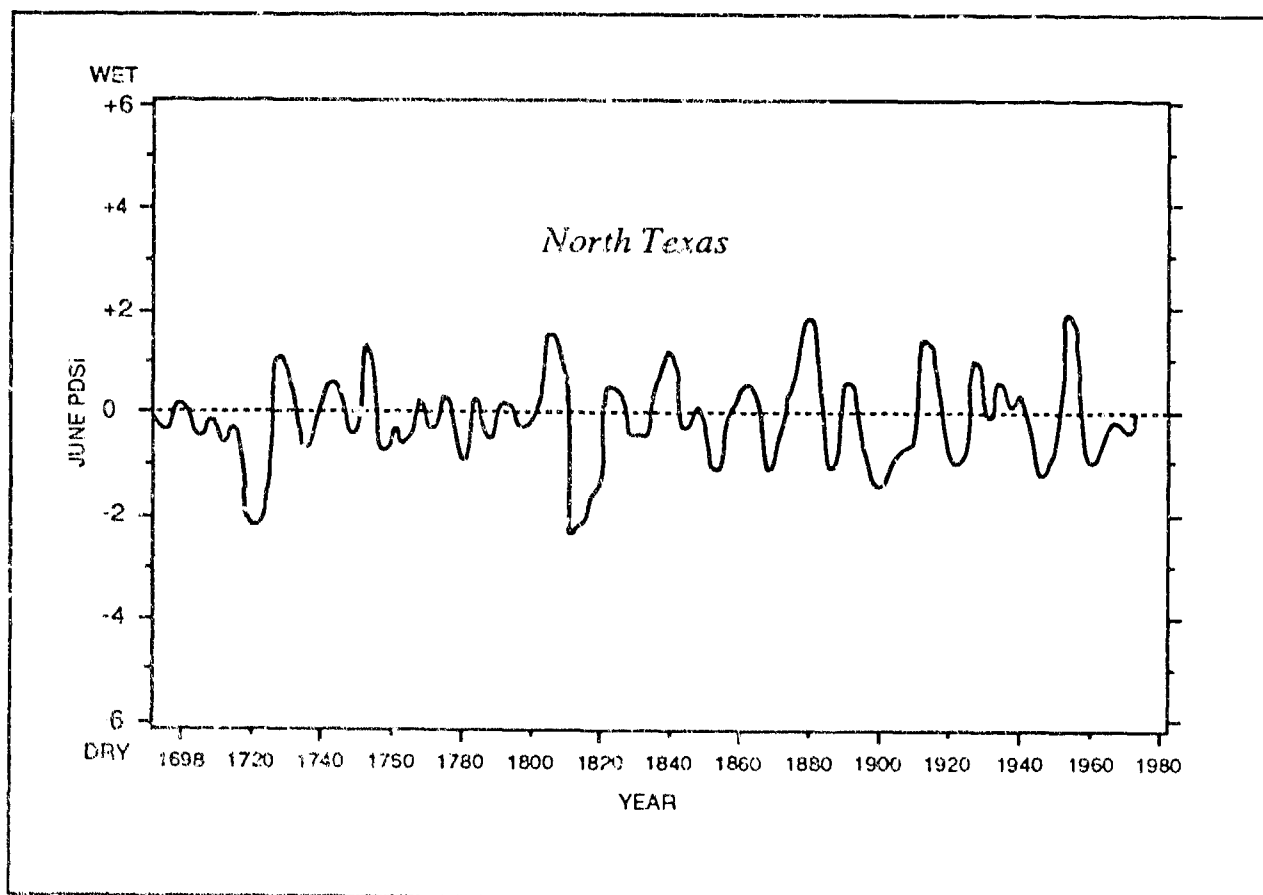


Figure 2-3. Variations in the June Palmer Drought Severity Index (PDSI) compiled for North Texas over the period A.D. 1698-1980 (after Stahle and Cleaveland 1988:65, Figure 13).

the statewide information will be used in the model for the greater Cooper Lake study area. This procedure is strengthened by the fact that one of the chronologies used in the statewide study is from Red River County, ca. 80.5 km (50 mi) northeast of Cooper Lake.

The reconstructed PDSI for Texas reveals that the most protracted periods of consecutive June drought since A.D. 1698 occurred (in relative order of intensity) in 1951-1956, 1855-1864, and 1772-1781 (see Figure 2-3). At least eight other periods, each less than 10 years in duration, were also marked by severe drought oscillations (see Figure 2-3). These include the periods 1710-1715, 1728-1732, 1750-1758, 1788-1792, 1804-1807, 1818-1822, and 1890-1895.

Conversely, seven major and at least 10 minor periods were marked by above-normal PDSI. The wettest decade was A.D. 1791-1800,

and most episodes of prolonged drought were preceded and/or followed by extended wet periods (Stahle, Cleaveland, and Hehr 1988:65-66). The present data base of tree-ring chronologies from around the Cooper Lake project area has been examined for the potential to contribute to paleoenvironmental reconstructions (Cleaveland 1993). Since there are no pollen sequences for Cooper Lake, the tree-ring data are an important means of reconstructing local climate.

Based on the results of statistical reconnaissance of the relationship between available tree-ring chronologies in Texas, Oklahoma, and Arkansas, it is possible that long-term reconstruction of South Sulphur River discharge and divisional PDSI can be achieved for Cooper Lake (Cleaveland 1993). Figure 2-4 illustrates the stream flow for the South Sulphur River recorded at the gauging station below Big

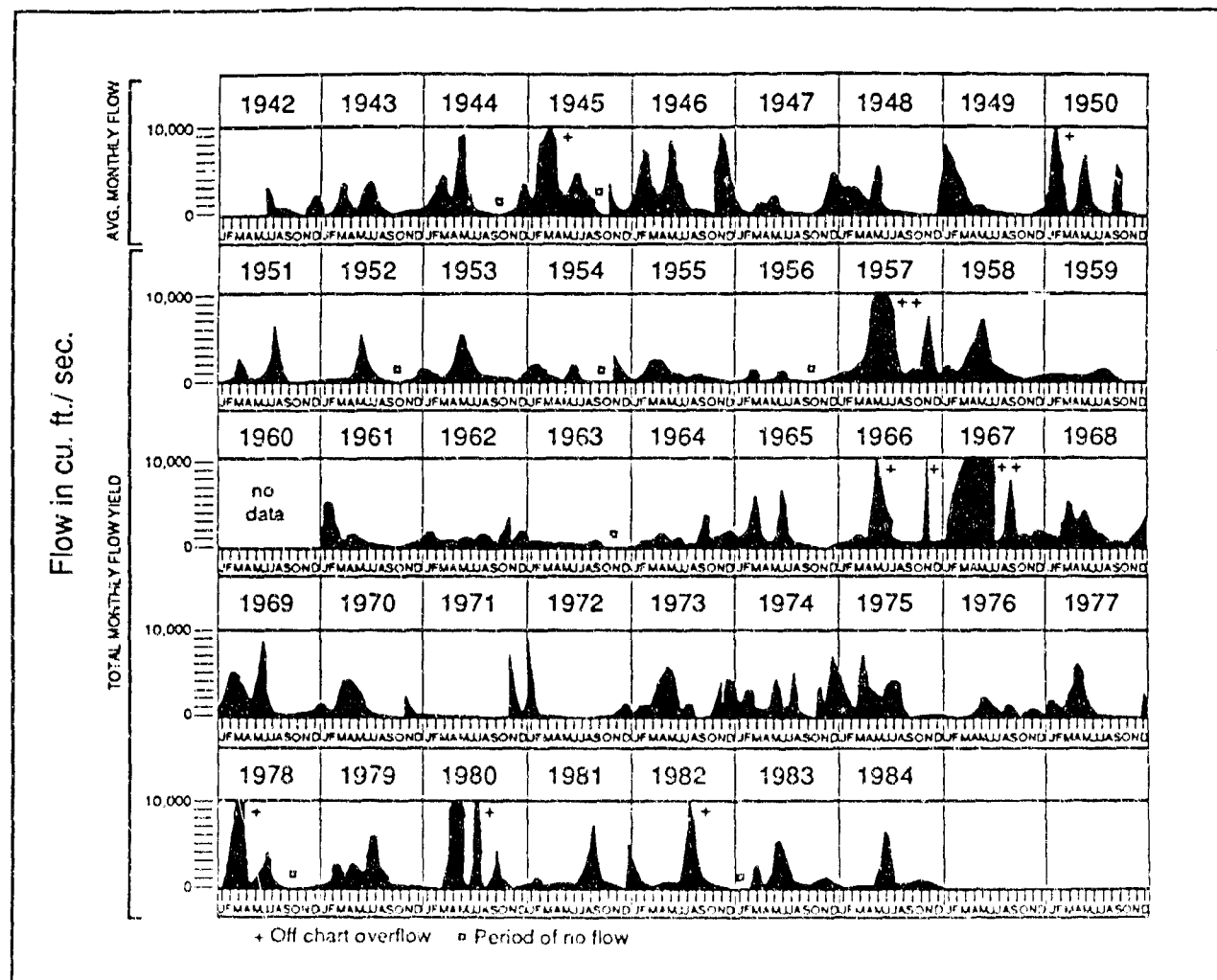


Figure 2-4. Stream-flow data for the South Sulphur River, recorded at the gauging station below Big Creek.

Creek. Peak flooding episodes occur in the spring to early summer, with 1945, 1957, 1966, 1967, 1978, 1980, and 1982 experiencing the greatest flooding. During these episodes, the floodplain and floodplain-slope topographic zones were undoubtedly underwater. It is likely that the peak flooding and drought episodes can be reconstructed for Cooper Lake for the past 300 years using established tree-ring chronologies.

In addition to the correlation with the PDSI, post oaks in Texas contain a unique record of frost injury which correlates to the phenomenon of "false spring" (Stahle 1990). A regional reconstruction of the frost rings in post oaks from Texas, Oklahoma, Kansas, Missouri, and Arkansas has been completed for the period 1650-1980. Based on the timing of frost events to the twentieth century, the cold wave which eliminates false spring in Texas usually occurs during the first three weeks of March, severely damaging fruit and nut trees as well as early crops (Stahle 1990:77). In Texas, such events are demonstrated for A.D. 1660, 1664, 1689, 1701, 1716, 1719, 1730, 1735, 1741, 1745, 1769, 1778, 1779, 1786, 1791, 1796, 1810, 1814, 1816, 1819, 1820, 1826, 1828, 1832, 1833, 1839, 1843, 1844, 1857, 1867, 1870 (one

of the most intense and widespread), 1876, 1880, 1886, 1890, 1892, 1913, 1923, 1931, 1932, 1943, 1962, and 1965. Due to microenvironmental and atmospheric factors, every collection site in Texas does not contain evidence for all frost rings. Indeed, not all trees within a stand contain such evidence. This points to the need for regional networks of collection sites, particularly for the collection of historic wood from buildings and structures.

As noted above, the regional network employed in the reconstruction of Texas' climate is much more robust than single-site reconstructions. Also, since the native vegetation has received so many disturbances due to historic land-use practices, none of the modern trees within and adjacent to the reservoir are suitable for such analyses. Historic buildings, which were locally cut from the native forests, serve as repositories for ideal proxy climate information. Unfortunately, nearly all structures have been removed from Cooper Lake. However, a horizontal log building (e.g., the William Vaden House [1850]) adjacent to Cooper Lake and some timber-frame structural ruins within impact areas (e.g., 41HP143 [1876] and 41DT160 [1878]) have yielded tree-ring dates.

# Previous Research

## 3

The earliest recorded investigation of Cooper Lake was the Moorman and Jelks Survey, conducted in 1951 (Moorman and Jelks 1952). This investigation identified 24 sites, most of which were within the reservoir project area as defined today. Avocational archaeologists then excavated burials at sites 41DT6 and 41DT16 in 1953 and 1956. The first systematic reevaluation of Cooper Lake archaeological sites was performed by the Texas Archaeological Salvage Project on eight sites in 1959, and two new sites were recorded at that time (Duffield 1959). No additional systematic surveys were performed. Most of the site information was derived from the collections of local individuals. These individuals have since passed away, and only partial collections have been preserved (e.g., Harper collection). Unfortunately, the notes and records, as well as site locations from this time, have not been preserved. Excavations at the Manton Miller site (41DT1) were directed by E. B. Jelks in 1959 and are reported in Johnson (1962). Mr. J. K. Long reported sites 41HP6 and 41HP7 in 1959, indicating the surge of local interest in the prehistory of Cooper Lake.

Only two projects were performed in the Cooper Lake area during the 1960s. The Dallas Archaeological Society excavated the L. O. Ray site (41DT21). The second known project, conducted by Bob Slaughter of the Department of

Geology at Southern Methodist University (SMU), performed geological and paleontological investigations of Cooper Lake and surrounding areas and visited some localities with potential archaeological significance.

The Archaeology Research Program of SMU performed three levels of investigations in the Cooper Lake study area from 1970 to 1976. The first to be initiated was a partial survey of unknown coverage, which is estimated (based on the distribution of recorded sites) to have encompassed less than 30% of the total reservoir area. This reconnaissance recorded 105 sites, 88 of which were newly identified (Hyatt and Skinner 1971). No historic sites were recorded, although historic components were present on some of the prehistoric sites.

Beyond this work, testing was performed at 30 sites, two of which (i. e., 41HP81 and 41HP87) were considered outside of the project boundaries at that time. Controlled surface collections were performed at two sites, and only two sites (i.e., 41DT37 and 41HP102) were excavated. For the other localities, the levels or intensity of testing varied from site to site. The SMU test excavations at Manton Miller (41DT1), for example, were less extensive than those conducted at either 41DT37 or 41HP102. After the initial survey, only seven new sites were recorded in subsequent years, as incidental activities during

the excavation phases of various SMU projects.

Previous studies at Cooper Lake generally have been unsystematic in terms of complete coverage of the landscape, particularly in the coverage of stream channels and the recording of historic properties. However, two recent exceptions are the survey, testing, and mitigation investigations of the dam axis construction zone performed by the University of North Texas (UNT) through a subcontract with Alan Plummer and Associates of Fort Worth in 1986-1987, and the survey, testing, and mitigation of the broader area of the embankment performed by SMU in 1987 (Moir, McGregor, and Journey 1993). Both of these studies included surveys of stream banks and backwater sloughs, and used machinery to cut across fossil channels as well as to examine knolls and other landforms with a high potential to contain sites.

A series of reports (Perttula 1988a, 1988b, 1989a, 1989b) has been published for the UNT's work. A single UNT report on the relocation of the Tucker Cemetery (41DT104) has been published (Lebo 1988). The SMU embankment report (Moir, McGregor, and Journey 1993) is undergoing final editing. In addition, geomorphological studies have been performed by Prewitt and Associates (Bousman, Collins, and Perttula 1988), and SMU (Ferring 1993). In total, an area of ca. 4,000 ha (10,000 acres) had been intensively investigated for geomorphological

and archaeological information prior to the Delivery Order Number 6 survey.

Some portions of the present survey area have recently received archaeological reconnaissance. Site 41HP158 was surveyed by McGregor and Roemer (1989). Portions of Survey Area 1 and Survey Area 2 were evaluated by Daniel McGregor (CE) and Ron Ralph of Texas Parks and Wildlife (TPWD) in December 1988. Also, some sites within the above-mentioned study areas, which have been assessed by SMU (Moir, McGregor, and Journey 1993) and by the University of North Texas (Perttula 1988a, 1988b, 1989a), were reevaluated under Delivery Order Number 6. In addition, geomorphological studies have been performed for Finley Branch and other portions of the reservoir (Bousman, Collins, and Perttula 1988; Ferring 1993). These studies were used to guide the present geoarchaeological work.

Under a subsequent work order (Delivery Order Number 7), nearly all archaeological surveys were completed on the reservoir areas above 133 m (435 ft) above msl. Those areas remaining unsurveyed were pointed out to CE personnel. One 202 ha (500 acre) area was surveyed by Prewitt and Associates, Inc. (Bailey, Boyd, and Bousman 1991) under Contract No. DACW63-90-D0008. However, a minor portion of the floodplain shown in Figure 1-1 still has not been systematically surveyed for all historic cultural resources.



# Research Design

## 4

The survey and preliminary evaluation of sites in Survey Areas 1, 2, 3, and 4 were performed following the stipulations of the Cooper Lake cultural resources Memorandum of Agreement (MOA; dated December 1, 1986), the guideline Scope of Work which serves as an attachment to the MOA, and the Research Design for Cooper Lake archaeological studies (Moir and Journey 1988). The specific details for this work were included in the Delivery Order Number 6 work order, revised 10 March 1989. The objectives and topical areas outlined as potential avenues for cultural resource investigations are briefly summarized below.

The investigations of the survey area stipulated under Delivery Order Number 6 called for pedestrian survey of all land within the proposed parks and adjacent floodpool areas, establishment of site boundaries, identification of cultural components, and preliminary evaluation of their archaeological integrity and potential National Register of Historic Places (NRHP) eligibility. This work was not to be classified as NRHP testing, but was to make general evaluations of potential significance and relevance to the Research Design. All properties which have been given archaeological site status will be discussed briefly. The material culture noted or collected will be summarized briefly. Archival and informant data, combined with the material

culture, have been used to establish preliminary evaluations of National Register eligibility for these properties under Criteria A, B, C, and D.

The overall Research Design for Cooper Lake (Moir and Journey 1988) guides the research within each separate Delivery Order issued by the Corps of Engineers (CE). The primary goal is to identify historic properties and mitigate any adverse effects on those properties that are subject to construction impact. This design was formulated several years prior to the completion of a full inventory of all cultural resources, and by necessity had to be flexible and provide several avenues of research and consideration of NRHP significance. The research themes outlined in the Research Design (Moir and Journey 1988) include settlement patterning, environmental and ecological reconstruction, subsistence practices, and specialized analyses of prehistoric and historic material culture. Each property was evaluated for its potential to provide data pertinent to these themes.

Within the scope of work for Delivery Order Number 6, it was not possible to extract all data necessary in order to examine these four broad research topics. Each site was evaluated to determine whether it could clearly yield information on one or more of these topics, or could not provide any further information. Within the present scope of work it was possible to

examine the potential to yield subsistence and technological data, to explore the use of local lithic sources throughout the lake area, and to briefly examine broader cultural spheres.

The human ecology of the Sulphur River within the past 10,000 years provides the historic context relevant to Cooper Lake. Unfortunately, cultural deposits of all time periods are not uniformly distributed or preserved, and certainly numerous cultural groups have passed through, emigrated from, or settled within the present Cooper Lake project area. Additionally, those people who once lived in the region undoubtedly had broader cultural contacts beyond the Sulphur River Basin. Historic groups, both Native American and Euro-American, participated in a global political and economic system.

The Research Design for Cooper Lake is focused on two premises: (1) that the survival of human populations is dependent on learned behavioral responses to the biophysical and cultural environment, and (2) cultures are most likely to change in response to environmental (i.e., climatic) and/or cultural stress. These premises are based on a cultural ecology perspective and acknowledge the interactive nature between culture and the physical environment.

## PREHISTORIC RESEARCH TOPICS

Table 4-1 summarizes the prehistoric research design, the major research topics, and the potential of known archaeological sites to yield data sufficient to address data gaps in these research topics (Fields et al. 1991). The current levels of information indicate that a matrix of 11 known sites have the greatest potential to address the prehistoric cultural chronology, settlement patterning (intrasite and regional), subsistence, sociocultural interaction, and paleoenvironmental reconstruction research topics. One of these previously recorded sites, 41HP102, is present in the Delivery Order Number 6 study area. Another two, 41HP159 and 41HP175, were discovered during this work.

A firm cultural chronology is a prerequisite for addressing all four of the above research topics. In order to establish settlement patterns, it

is necessary to isolate dated archaeological components that will allow synchronic or diachronic examination of site distributions and functional variability.

Environmental reconstruction is also contingent upon the presence of paleoclimatic information, as well as the separation of stratigraphic units. Chronological control is also required when making determinations of subsistence and technology, which are correlated with site type and with site function. Material culture provides the principal means for expanding archaeological inference concerning prehistoric technology, artifact function, and the potential symbolic-structural-cognitive information (Watson and Fotiadis 1990:613-629) contained in stylistic variables such as projectile point morphology and/or pottery design motifs.

The study of macro- and micro-settlement patterns requires the amalgamation of all four research topics, since each level of research is a prerequisite for the identification of another. In this sense, settlement patterning is the culmination of all chronological, subsistence, technological, and material culture studies, matched against paleoenvironmental reconstruction and interpretations of group mobility and interaction.

The previously and newly recorded prehistoric sites were evaluated individually to determine which, if any, of them may contain data sufficient to address these topics. First, the material culture was evaluated for functional and technological attributes that may suggest temporal associations and subsistence strategies. Any evidence for potential chronometric dating was considered. The presence of ecofacts (faunal remains, carbonized plants, etc.) was also evaluated via the flotation of samples taken from charcoal lenses or cultural features. Not all sites, however, had the preservational circumstances to capture this information, nor can all site types within the settlement/subsistence system be expected to contain ecofactual information. This does not necessarily eliminate the research potential of such sites, since some site types within the settlement/subsistence system may not have associated faunal or floral remains, and others may be in settings where the residence time may not have preserved such information. Residence time is correlated with the function of a site—the longer

TABLE 4-1

Summary of the Prehistoric Research Design for Cooper Lake,  
by Major Research Topic

**Cultural Chronology**

## Isolation and Dating of Components and Discrete Periods of Time.

Sites with clearly defined components include 41HP159, Middle and Late Archaic; Early Ceramic or Woodland at 41DT124, 41HP106; Early Caddoan at 41DT80 and 41DT124; and Middle Caddoan at 41HP106 (Fields et al. 1991:23). An additional site, 41HP175, appears to date to the latter portion of the Late Prehistoric period and contains sealed components.

**Settlement Patterning**

## Intrasite Patterning of Activities and Landscape Mobility at a Regional or Subregional Scale.

The most substantial evidence for structures and related occupation areas has been recorded for 41HP102 and 41HP106, with substantial coverage of 41DT80 and 41DT124. Eleven sites (41DT6, 41DT16, 41DT37, 41DT52, 41DT80, 41DT124, 41HP78, 41HP102, 41HP105, 41HP106, and 41HP159) have extensive artifact assemblages and related geophysical information useful in studying regional or subregional settlement patterns (Fields et al. 1991:25). An additional site, 41HP175, completes this list.

**Subsistence**

## Faunal and Floral Remains, Human Bioarchaeology, Food Processing, and Storage Strategies and Techniques.

Ten sites (41DT6, 41DT16, 41DT37, 41DT52, 41DT80, 41DT124, 41HP78, 41HP102, 41HP105, and 41HP106) have the greatest yield of data relevant to subsistence (Fields et al. 1991:26). Also, site 41HP137 has yielded important information on cultigens (McGregor 1993).

**Sociocultural Interaction**

## Lithic and Clay Raw Material Procurement, Regional Stylistic and Technological Patterns, and Bioarchaeological Comparisons.

All 13 sites discussed above have the greatest potential of providing assemblages suitable for this analysis.

**Paleoenvironmental Reconstruction**

## Ecological Baseline-Geomorphology.

A basin-wide, five stage model derived from six geological sites was proposed by Bousman, Collins, and Perttula (1988: 93-99). Ferring (1993) investigated the geological sequences at four sites (41DT118, 41DT124, 41DT126, and 41DT80) and Darwin, Ferring, and Ellwood (1990) performed resistivity profiling to 17.5 m below surface in the embankment study area. There is a lack of non-geological data that would be useful in paleoenvironmental reconstruction.

SOURCE: Moir and Journey (1988).

the occupation, the greater the chance of deposition of faunal and floral remains.

At sites where occupation was light or limited to raw material procurement or hunting activities, however, faunal or floral remains may not have been generated by the activities that were conducted at the site. However, other types of information, such as data related to quarrying activities or tool manufacturing, may have been preserved. Stylistic and morphological attributes within the material culture assemblages were also considered in relation to the interpretation of group interaction and/or mobility. The physical records at each site were described, and their potential contribution to each research topic was considered in the formulation of a NRHP evaluation (either clearly not eligible, further work necessary to evaluate, or clearly eligible).

### **HISTORIC RESEARCH TOPICS**

As with the prehistoric cultural resources, the historic research perspective focused on those areas of human behavior most observable in the archaeological record: (1) cultural chronology; (2) settlement patterning; (3) subsistence strategies; and (4) material culture studies. Table 4-2 summarizes the historic research design and major research topics or avenues of data collection. Previously recorded sites which have the potential to address these research topics are also listed, and include 41DT97, 41DT113, 41DT118, 41DT126, 41HP142, and 41HP143. Two of these, 41HP118 and 41HP143, are located in the Delivery Order Number 6 study area. A single, newly recorded site, 41DT154, contains both light industrial (brick-making) and domestic components and can contribute data relevant to all research topics.

Chronometric control was also required in order to operationalize each of these research topics. As with prehistoric resources, material culture studies provide the initial building block for the identification of the site type and its function within the cultural system. The concept of the site type is necessary prior to any consideration of overall settlement patterning. Domestic sites

(e.g., isolated farm houses and farmstead complexes) are the dominant property type and are the principal ones which contain information on historic change and adaptations. Cottage industries (e.g., sorghum mills, brick clamps, and saw mills) which have been identified in Cooper Lake are all associated with domestic occupations. In some instances, domiciles were also used for stores, restaurants, and schools.

The investigation of site patterning (e.g., distribution of outbuildings, wells, cisterns, and ornamental vegetation at such sites as 41DT97, 41DT118, 41DT126) has provided a firm local model of frontier and post-frontier farm structure and layout. Each newly recorded historic site was evaluated to determine whether additional study, beyond site recordation, would yield additional information relevant to historic site patterning.

Archival and informant information was collected not only for the greater project area, but also for specific cultural properties within the project area defined in Delivery Order Number 6. When specific occupants or occupation periods could be identified, this information was presented for each site. However, the lack of such information is not necessarily a justification to eliminate a property from consideration to the NRHP. For instance, many frontiersmen, immigrant Indians, ethnic groups, and itinerants such as tenant farmers were never documented in the historical records. The archaeological evidence from historically unknown sites can be potentially useful in establishing chronological controls over settlement patterns, and such sites may have greater archaeological integrity than well-documented occupations.

Each historic property was evaluated for the material culture present, either as standing ruins, yardscapes, or artifact scatters. Chronological interpretations were made on the aboveground and subsurface nature of each site. Archival and informant data were integrated with the archaeological evidence, and the potential significance for each site was described as clearly not eligible, further work necessary, or clearly eligible for the NRHP.

TABLE 4-2

Summary of The Historic Research Design for Cooper Lake,  
by Major Research Topic

**Cultural Chronology**

Frontier and Post-Frontier Immigration: Upper South—Lower South—Midwestern.

Cultural geographers in Texas have identified distinctive cultural attributes in architecture, cemetery practices, and lifeways (Jordan 1967, 1970, 1978; Jordan, Bean, and Holmes 1984) that influenced the initial frontier settlement of Texas. Subsequently, during the frontier agricultural expansion of the late nineteenth and early twentieth centuries, the American mosaic of cultural influences is less clear-cut. Sites which could yield information relevant to initial settlement include 41DT97, 41DT113, 41DT118, 41DT126, 41HP142, and 41HP143. Sites with significant post-frontier occupations include 41DT126 and 41DT154.

**Settlement Patterning**

Intrasite Features and Refuse, Farmsteads, and Communities.

Initial settlement in Cooper Lake focused on the distribution of the Public Domain. Many of the sites identified in the archaeological record are located on soils and landforms conducive to yeoman farming practices (e.g., 41DT97, 41DT113, and 41DT118). During the post-frontier period, many farms operated by non-resident landowners were actually farmed by tenants (41HP142 and 41HP143). Cemeteries were important for residential families. Small, kin-based cemeteries and larger church or community cemeteries are present. Schools and churches were located within the Delivery Order Number 6 study area. Light industries (brick clamps or kilns, syrup mills, and wood) are present as well.

**Subsistence**

Yeoman Farmers, Animals, Row Crops, Cotton, Socioeconomic Status.

The Cooper Lake area is located in a region which was remote from any major urban markets during the frontier wave of settlement. Farming strategies prior to the railroad were diversified, primarily husbandry and row crops. Cash cotton became a dominant farming strategy after the railroad provided closer market access. Sites with information relating to subsistence include 41DT97, 41DT113, and 41DT118.

**Socioeconomic Interaction**

Native American, Euro-American, and African American; Landowner and Tenant

Frontier America was settled by a diverse range of races and ethnic groups. Some settlers preferred to be on the front wave of settlement, while others waited for improved transportation and economic development before moving west. In the late nineteenth century and early twentieth century, agrarian society was highly mobile, both within a subregion and interregionally. Sites which can yield data relevant to this include 41DT97, 41DT113, 41DT118, and 41DT126.

SOURCE: Moir and Jurney (1988).

# Methodology

## 5

### SURVEY METHODS

During the Spring and early Summer of 1989, ARP personnel conducted pedestrian surveys and subsurface investigations in the proposed South Sulphur Park (Survey Area 1; 1102 ha [2,724 acres]) and in the proposed Doctors Creek Park (Survey Area 2; 121 ha [300 acres]), as well as in portions of the proposed reservoir adjacent to the parks. The goal of this survey was to document and identify all cultural resources greater than 50 years of age. The primary and secondary impacts to these resources were identified and each resource was assessed as to significance in terms of National Register criteria A, B, C, and D.

The survey methodology consisted of pedestrian survey, with teams of people walking at 20 m (65.6 ft) intervals. In areas which were not extensively eroded and where there was extensive ground cover, shovel tests were used to determine whether archaeological remains were present. Systematic testing of landforms (e.g., remnant upland and floodplain knolls) with high site potential and poor exposure was performed in selected areas. Specifically, floodplain knolls or pimple mounds were examined along Doctors Creek (see Chapter 6, see Chapter 8, sites 41DT151, 41DT152, and 41DT153). The Posey Bottom floodplain projection (see sites 41HP102, 41HP170, 41HP171, and 41HP172) was also

investigated (see Chapter 6). Likely areas for buried sites along the apron of the floodplain and along streams were sampled via backhoe and visual examination of cut walls and back dirt. This backhoe testing augmented intensive pedestrian coverage and shovel testing within floodplain settings (scope of work for Delivery Order Number 6), which have been shown to have mantles of post-settlement alluvium varying in thickness from 35 cm (13.8 in) to over 1 m (3.3 ft; Bousman, Collins, and Perttula 1988; Ferring 1993; see Chapter 6). Sediments from the mechanical excavations were screened only if archaeological materials were encountered.

In all, 175 backhoe trenches were excavated during the fieldwork for Delivery Order Number 6. These trenches were excavated for the purpose of discovering buried sites (testing of the floodplain apron), as well as determining site extent and structure. In all, approximately 304,000 cubic meters of sediments were excavated. Screening of the excavated soil matrix was limited to discovered or known sites, as per the scope of work for Delivery Order Number 6. Twenty-six archaeological sites, 11 of which were newly identified, were investigated during the backhoe testing operation (see Table 6-1).

All previously recorded sites within the study area were revisited in order to update site information, particularly current site condition. A

maximum of one person day was specified by Delivery Order Number 6 in the search for each site, unless the site was known to have been completely destroyed by construction (DACW63-87-D-0017, C.B.9). At all newly recorded and relocated sites, a permanent datum was established and recorded on the site map. These site datums were usually shovel tests (35 cm x 35 cm) which were screened for artifacts, unless other screened test units were used to evaluate the site.

A complete photographic record was kept of all recorded sites. Both black and white and color photographs were taken. Damage produced by vandalism, construction, or earth disturbances was documented in addition to two viewpoints of the site. Structural ruins were also documented, showing significant architectural details. However, all buildings noted were either in ruin, collapsed, or simply a set of remains such as structural piers.

The scope of work for Delivery Order Number 6 specified that the goal of testing was not to reach what may be termed "major data recovery." The methodology was stipulated in Sections 4B-C of contract DACW63-87-D-0017. The survey level testing was not expected to resolve National Register eligibility in all cases. For sites of potential National Register quality, the goal was to identify sites as clearly eligible or not eligible for the National Register and to document accurate boundaries for all sites. At sites where soil profiles could not be observed in trench walls, gully walls, or erosional features, the depths of deposits were determined using soil probes, soil augers, or shovel tests. Historic sites with clearly defined surface boundaries (e.g., structural evidence) received minimal testing, usually limited to the screened datums. These sites often displayed well or cistern depressions, piers and chimney falls, outbuilding and fence remains, 80-100% ground surface visibility, and planted ornamental vegetation which clearly defined yardscapes.

Archival research and informant interviews (see below) were performed for the entire project area, and specific information was derived for some, but not all properties. Those properties for which the former occupants were not identified were, for the most part, the residences of non-landowning tenants.

## TESTING METHODS

All archaeological sites were evaluated as to their degree of integrity based first on surface visibility and, second, on landform or soil association. If sites were extremely eroded, less than 50 years of age, or consisted of aboveground features, shovel tests were limited to the placement of datums that usually measured 35 cm (13.8 in) wide and up to 35 cm (13.8 in) in depth, depending on when culturally sterile sediments were encountered. Auger tests and accessory shovel tests were used to confirm the information derived from the placement of datums only at historic sites which were over 50 years old. Those sites which were clearly less than 50 years old (as determined on the basis of extant surface artifacts, features, and structural remains) were not subjected to formal test excavations.

All prehistoric sites or historic sites with prehistoric components received shovel and auger tests in addition to the examination of datum excavations. If surface exposure was adequate to evaluate site extent, then subsurface testing (screening all soil) was minimal. If deep or dense archaeological deposits were present, then mapping controls were established. Features and excavation units were then mapped via transit and an arbitrary elevation datum was established.

Limited trackhoe trenching was also conducted along Finley Branch, an area that will be impacted by construction of the North Texas Municipal Water District's Water Intake Facility. In this area, a large trackhoe was used to open deep trenches along the artificial channel of Finley Branch. The work order specified that a 1 mi (1.6 km) long area from the South Sulphur River to the intake facility itself was to be cleared.

Both backhoe (averaging 4 m [13 ft] long) and trackhoe trenches (averaging 100 m [328 ft] long) were excavated at approximately 500 m (1,640 ft) intervals along Finley Branch. These trenches were excavated to 5-7 m (16.4-23 ft) below surface along the artificial channel of Finley and the original course of Finley Branch. Trenches extending away from these channels averaged 1.5 m (5 ft) in depth as a safety precaution. Trackhoes increase the rate of subsurface exploration and backdirt removal, and are recommended for any other extensive deep explorations in the reservoir.

## ARCHIVAL RESEARCH AND INFORMANT INTERVIEWS

The scope of work for further archival research, under the terms of Delivery Order Number 6, specified that general historical information be compiled for all unsurveyed project areas (Tasks 2 and 4). A detailed summary of the archives visited and the results of broad-brush and site specific research is presented in Chapter 7. All historical summaries and materials compiled under previous work orders and contracts were reviewed. The population censuses, agricultural censuses, tax rolls, county court minutes, and probate records were examined at Sulphur Springs (Hopkins County) and Cooper (Delta County). A major series of 1936 surveys, performed by the U.S. Department of Agriculture and the Works Progress Administration, was uncovered in both the Delta County and Hopkins County courthouses. These were individual land tract surveys that were performed for all farms. Unfortunately, the curation of these records varies and several documents regarding Cooper Lake were damaged (illegible), destroyed, or missing.

Other regional archives included the Real Estate Division of the U.S. Army Corps of Engineers, the DeGolyer Library of Southern Methodist University, the Dallas Public Library, and the Barker Library in Austin. The archives of the Texas General Land Office also provided primary information on original land grants.

Informant interviews were conducted with local historians (e.g., John Banks, Doug Albright, Christine Ray) and citizens who have resided in the area for a considerable time. Also, an

interview with Skipper Steely, of Paris, Texas, was conducted in order to develop a broader understanding of the region. Mr. Steely kindly reviewed the previous archival research conducted at Cooper Lake (Saunders 1993) and provided information on broader settlement trends and historic events that affected the region. Individuals who were interviewed include Mr. and Mrs. Glossup, Mr. Kenneth Cockrum, Mrs. Velma Shaw, Mrs. Mamie Jones Crawford, and Mr. Harland Craig. These people provided details on general historic trends and events as well as specific historical information for some recorded properties.

## GEOMORPHOLOGICAL STUDIES

Geomorphological studies which were specified under the terms of Delivery Order Number 6 included: (1) clearance of the Finley Branch area, and (2) a predictive statement on the potential for buried sites in the South Sulphur and Doctors Creek parks. Backhoe and trackhoe trenching was performed in all survey areas, and a geomorphologist (Dr. Rolfe Mandel) examined several trenches during a visit in the Spring of 1989.

Since deeply buried prehistoric sites were already known in the Finley Branch area, Dr. Mandel concentrated his field investigations and description of sediments in trackhoe and backhoe excavations along the artificial channel of Finley Branch and at sites 41HP159 and 41HP160. In addition, a 6.3 m (20.7 ft) profile near site 41HP155 was sampled for particle-size analysis.



# Geomorphology and Soils at Cooper Lake

David H. Journey and Raymond Buyce  
with contributions by Rolfe D. Mandel

6

## INTRODUCTION

Interpretations of the geomorphology and soils in the Delivery Order Number 6 study area were conducted to assess the archaeological potential of those portions of Cooper Lake. The project was coordinated by D. Journey of the Archaeology Research Program, Southern Methodist University. Geological consultant R. Mandel provided direction for the geomorphological and soil science investigations. In the investigation of the Finley Branch area and site 41HP168 in Posey Bottom, Mandel also performed field description, sampling, and analysis of the laboratory data.

## RESEARCH GOALS

The primary objectives of the study were: (1) to determine the potential for buried archaeological sites in different geomorphic settings within each part of the project area, and (2) to recommend research strategies for locating buried sites, especially those dating to the Middle Archaic and earlier cultural periods.

Agencies requesting the study included the North Texas Municipal Water District Facility, which needed clearance for Finley Branch leading into the channel of South Sulphur River.

Additionally, Texas Parks and Wildlife requested the development of a predictive statement on the potential for buried sites in the proposed South Sulphur and Doctors Creek parks. Section 5 (B) 3 of Delivery Order Number 6 also specified that the possibilities for the presence of subsurface materials be investigated, and that the quality and extent of both previously recorded and more recently discovered sites be determined. Geomorphological investigations were required to satisfy these goals and, indeed, had been recommended by previous studies (Bousman, Collins, and Perttula 1988; Perttula 1988a; Ferring 1993; Fields et al. 1991:55). Specifically recommended in these reports were deep testing programs employing a backhoe.

## RATIONALE FOR DEEP TESTING

The need for deep testing via backhoe trenching was suggested by at least two lines of evidence: (1) past investigations (Bousman, Collins, and Perttula 1988; Ferring 1993) showed that the majority of sites within 1 m of the ground surface date to less than 2000 B.P. and some to less than 500 B.P., suggesting that in order to reach older sites, deeper testing would be necessary, and (2) a few isolated occurrences of older artifacts in stream gravels, particularly along

Finley Branch, indicated that there are older sites buried beneath late Holocene alluvium of considerable thickness (i.e., up to 6.3 m [20.7 ft] thick at localities such as site 41HP155).

Throughout the southern Great Plains, low rates of floodplain accretion have been demonstrated on streams of all drainage orders from ca. 2000 B.P. to 1000 B.P. (Hall 1990:343). These soils are characterized by a cumelic, organic-rich, highly thickened A-horizons (see 41HP159). In Texas, this has been referred to as the West Fork Paleosol (Ferring 1986) and the Navarro Paleosol (Bruseh, Raab, and McGregor 1987). This soil is both buried and exposed in many localities of Texas. Attempts were made to locate a correlative soil in the present study area.

### LOCATION

As specified in Delivery Order Number 6, all portions of the study area are situated upstream from the Cooper Lake Dam (Figure 6-1). The portion of Cooper Lake investigated includes part of the floodplain of the South Sulphur River and the drainage basins of some of its tributaries: on the south side of valley, those adjacent to the South Sulphur Park, and on the north side of the valley, those adjacent to Doctors Creek Park. The southern tributary drainages studied include the Finley Branch and Branam Creek area (Figure 6-2) and the Buggy Whip Creek and Posey Bottom area (Figure 6-3). The drainages on the north side include Doctors and Cannon creeks (Figure 6-4). Where possible, data were obtained from the various geomorphic settings of each area, and the results are discussed below according to their setting (i.e., channel, floodplain, floodplain/slope [alluvial fan?], slope, and upland).

### METHODS

Field methods involved examination of archaeological excavations and exposures along stream and channel banks. A deeply incised drainage channel parallel to Finley Branch provided an opportunity to study the Finley alluvial fan deposits and the floodplain deposits of South Sulphur River in vertical sections to depths

of 6.3 m (21 ft) below ground surface extending 1.6 km (1 mi) across the South Sulphur River valley. The drainage channel was mapped in 1914-1915, showing that it has been in existence for decades. Local ranchers report, however, that its active downcutting is a modern phenomenon, explaining the fresh nature of the exposures.

As is noted in Chapter 5, Methodology, 175 backhoe trenches were excavated to assess areas with high potential for buried sites and to interpret the geomorphology of various physiographic features. Table 6-1 lists the principal areas deeply tested by backhoe trenching. Not listed in Table 6-1 are several additional trenches within and adjacent to the Tucker (41DT104) and Sinclair (41DT105) cemeteries. Another deep test which is not listed is the large block excavation at 41HP160. Backhoe trenching was concentrated in areas which had been determined to be likely candidates for archaeological site discovery. The floodplain/slope deposits (alluvial fan complex?) along the south side of the South Sulphur River Valley and the drainages leading into them were extensively tested: Finley Branch (number of trenches,  $n=25$ ), Buggy Whip Creek ( $n=22$ ), Branam Creek ( $n=4$ ), and Posey Bottom ( $n=29$ ). The Doctors Creek Park vicinity on the north side of the valley was even more thoroughly trenched: Cannon Creek ( $n=33$ ) and Doctors Creek ( $n=36$ ). Fourteen additional trenches were also excavated out in the South Sulphur River floodplain.

A single wall of each backhoe trench was carefully prepared and the profile described. The sediments exposed were described in the field using the standard USDA procedures and terminology (Lane 1977). Each horizontal layer was designated as a "stratum" based on sediment characteristics such as Munsell color and field-determined texture and structure. The depths below ground surface of its upper and lower boundaries were recorded. These strata are not necessarily sedimentation units, and no significant lateral extent is implied. Furthermore, each stratum may contain one or more soils or none at all. For the purposes of this report, all of the profiles from a given drainage and geomorphic setting were examined, and a single typical profile was selected as the representative profile.

Mandel's field work included tentative designations of soil horizons, textural descriptions,

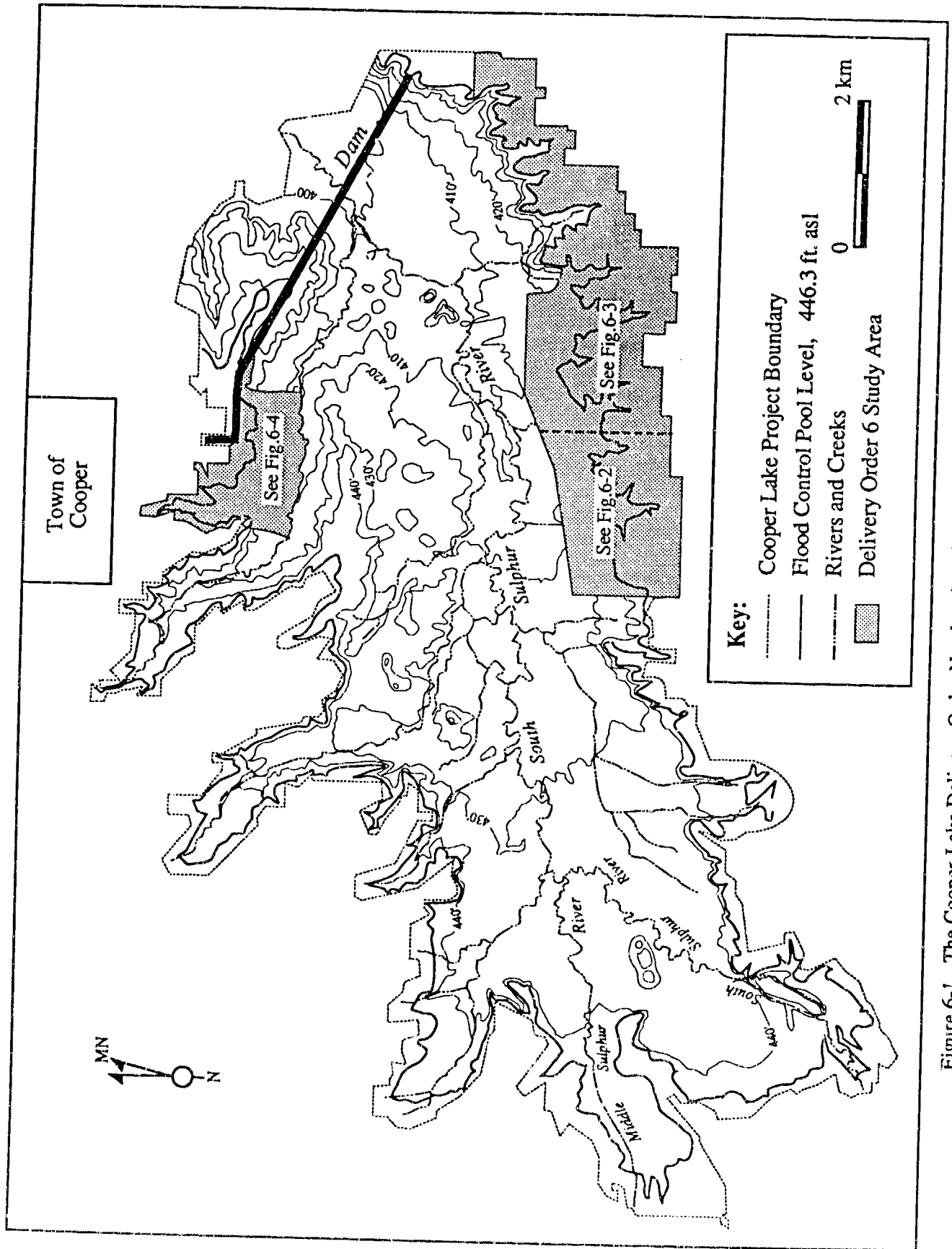


Figure 6-1. The Cooper Lake Delivery Order Number 6 study area, Delta and Hopkins counties, Texas, showing the locations of project segments defined for the geomorphological investigations.

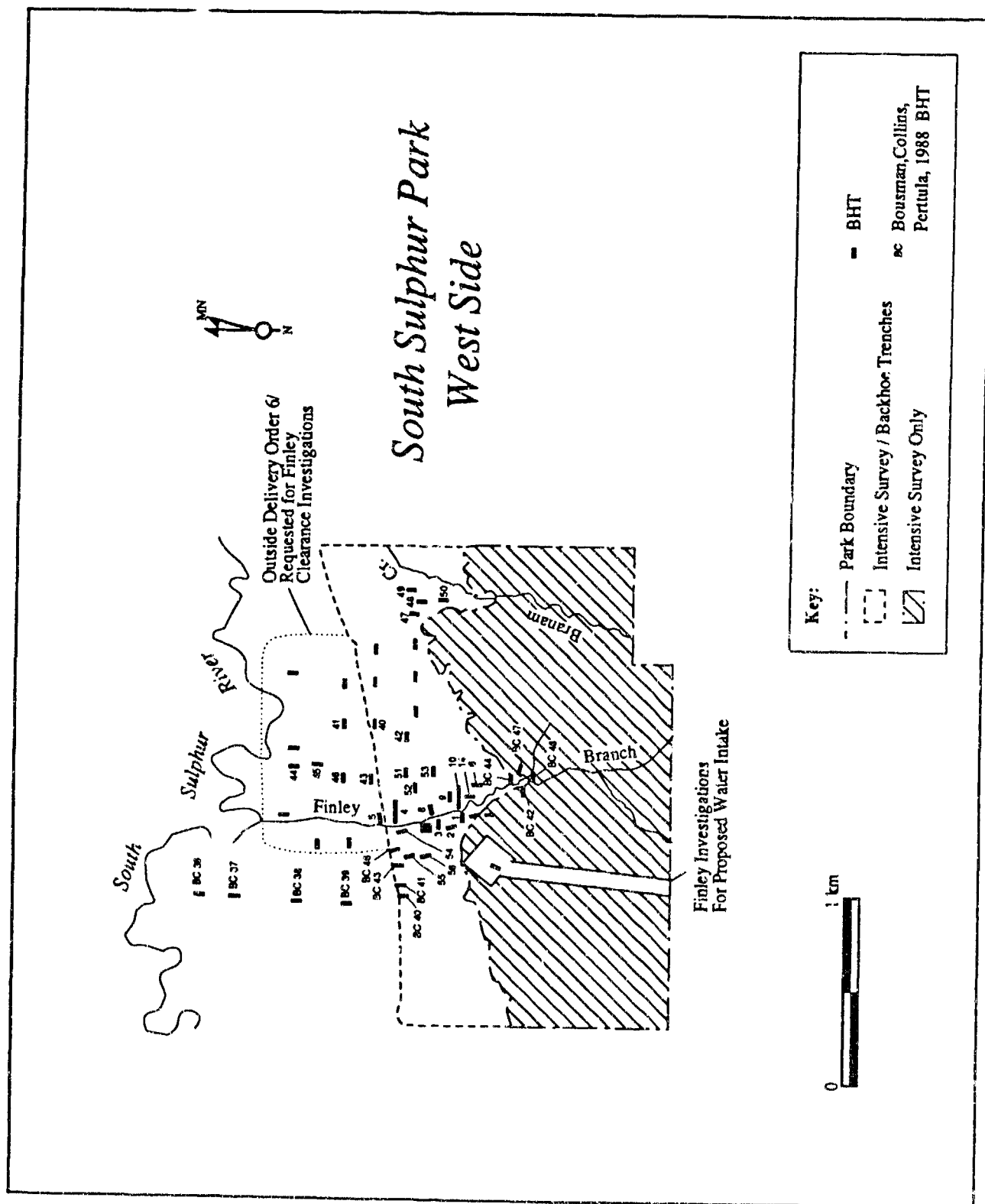


Figure 6-2. Locations of backhoe trenches excavated in the Finley Branch, Brannam Creek, and the South Sulphur River drainages within the proposed South Sulphur Park, Cooper Lake Delivery Order Number 6 study area, Delta County, Texas.

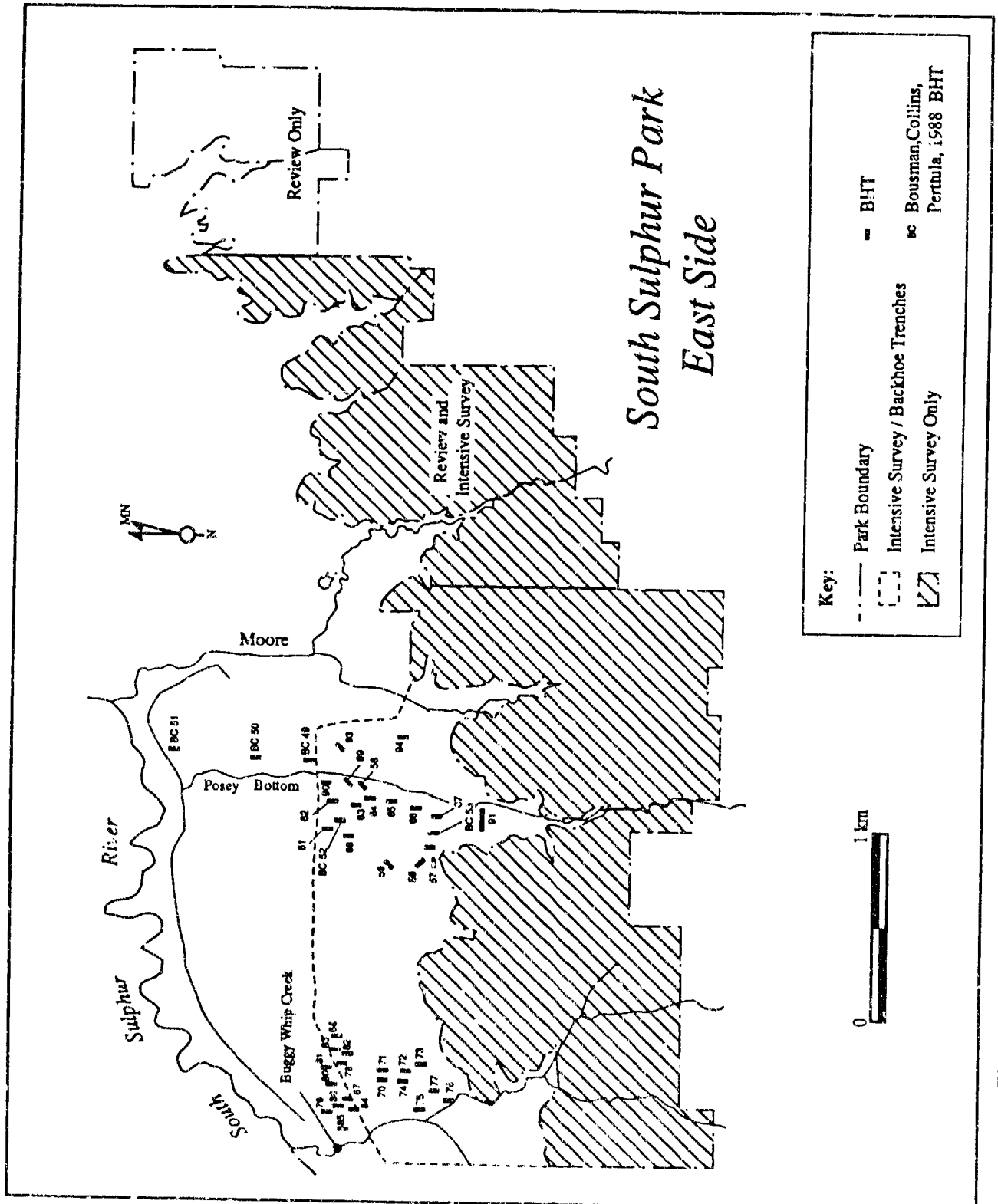


Figure 6-3. Locations of backhoe trenches excavated in the Buggy Whip Creek and Posey Bottom drainages, all within the proposed South Sulphur Park, Cooper Lake Delivery Order Number 6 study area, Delta County, Texas.

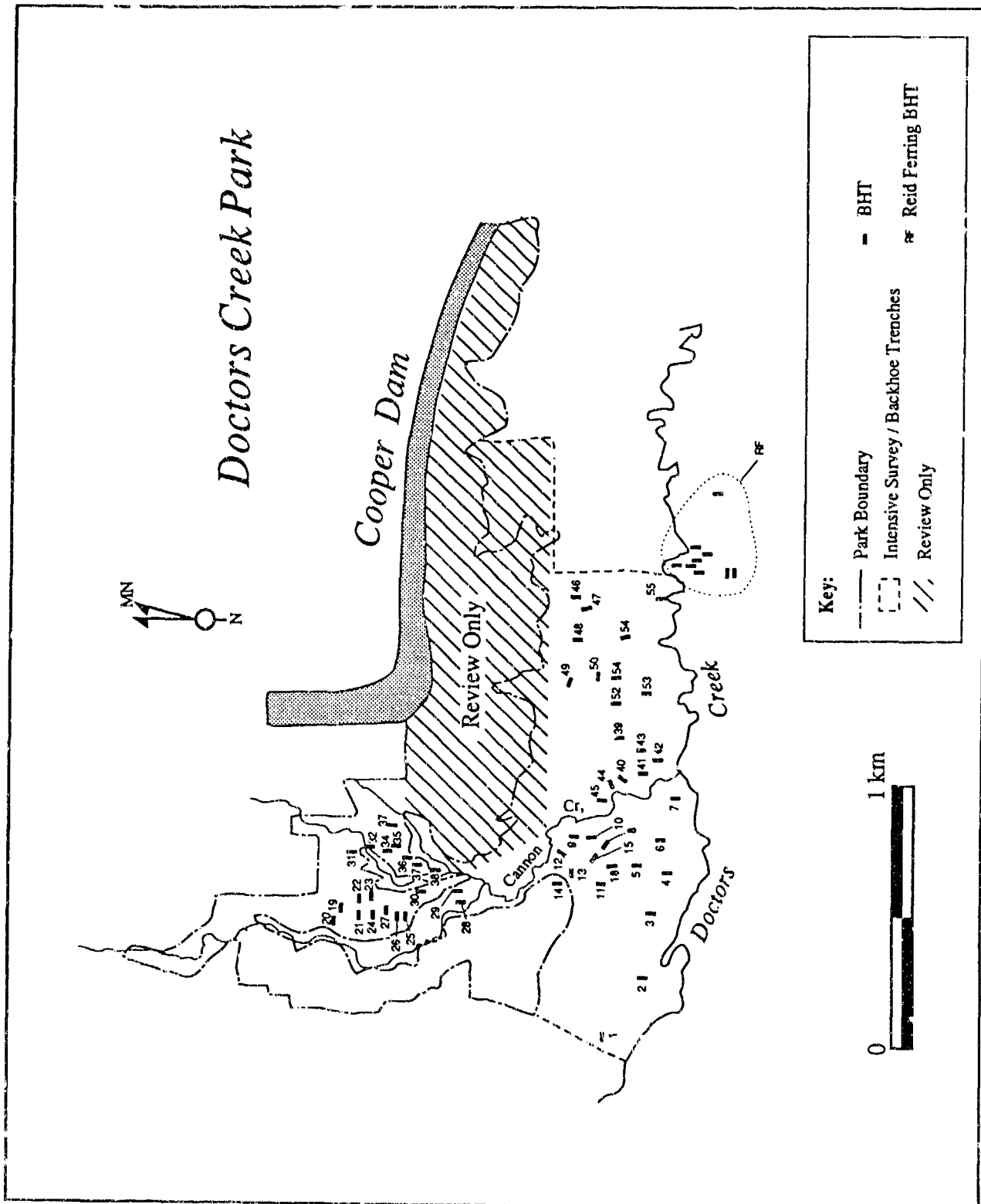


Figure 6-4. Locations of backhoe trenches excavated in the Doctors Creek and Cannon Creek drainages, Cooper Lake Delivery Order Number 6 study area, Delta County, Texas.

TABLE 6-1

Summary of Backhoe Investigations of Various Landforms  
in the Delivery Order Number 6 Study Area

Location	Sites (n)	Trenches (n)	Floodplain/ Channel	Floodplain	Floodplain/ Slope (Fan <sup>a</sup> )	Slope	Slope/ Upland	Upland
Branam Creek	0	4	—	—	4	—	—	—
Finley Branch	5	25 <sup>b</sup>	—	8	17	—	—	—
41HP158	1	4	—	—	2	—	—	2
S. Sulphur R.	0	14	—	5	9	—	—	—
Buggy Whip Cr.	1	22	3	16	3	—	—	—
Posey Bottom <sup>c</sup>	4	29	—	—	27	—	2	—
Doctors Creek								
West	4	7	—	7	—	—	—	—
East	5	29	—	2	10	17	—	—
Cannon Creek								
West	2	14	—	5	9			
East	4	19	—	7	7	1	4	—
TOTAL	26	167	3	50	88	18	6	2

a Finley Fan.

b Includes six trackhoe trenches, one block excavation, and nine unprofiled trenches.

c Includes Nahatche promontory in floodplain, Bonham to Jefferson Road, and channelized tributary of Moore Creek.

and sediment sampling in the Finley Branch drainage. Soil and sediment samples were collected from sites 41HP155 and 41HP159, and from certain other localities along Finley Branch, and sent to the Soil Characterization Laboratory at Texas A&M University for physical and chemical analyses. Also, soil samples were taken from buried paleosols for potential radiocarbon dating of humates. These were not submitted for dating, since charcoal was obtained from cultural features and natural strata. Mandel then used field and laboratory analyses to more precisely describe the sediments and soils along Finley Branch.

As noted above, Finley Branch provides a thick vertical exposure of the Cooper Lake sediment and soils package. It is the only locality

outside of the dam construction area where a deep trench into the deposits was accessible for observation in relative safety (Ferring, personal communication 1989).

Mandel's geomorphological investigations concentrated on the southern margin of the valley floor of the South Sulphur River between 131 m and 134 m (430 ft and 440 ft) above msl (see Figure 6-1). Here, small (i.e., less than fourth-order) tributaries, as well as Finley Branch, Branam Creek, and Buggy Whip Creek, have delivered large volumes of sediment from the uplands to the slope/floodplain margin of the valley floor, forming low-angle alluvial fans or coalescing fan aprons.

Ferring (1993) has provided a detailed

geomorphological investigation of the upland slope and floodplain setting within the Doctors Creek area adjacent to the Doctors Creek Park. The extensive deep testing (via backhoe trenching) of the present study area was conducted in order to determine whether archaeological sites were buried under historic sediment mantles there.

Information gleaned from the present field investigation, combined with geomorphological and geochronological data from Bousman, Collins, and Perttula (1988), Darwin (1988), and Ferring (1993) sheds light on the character, depth, lateral extent, and age of deposits and associated paleosols in valley-margin settings. For example, within the fan deposit where Finley Branch flows out onto the valley floor of the South Sulphur River, a prominent buried paleosol was observed at several localities beneath 35-60 cm thick deposits of fine-silty overbank alluvium. This paleosol contains the oldest archaeological site identified in Cooper Lake, site 41HP159.

## RESULTS

### South Side of South Sulphur River

#### *Finley Branch: Upland*

Two backhoe trenches were excavated on the upland historic component at 41HP158 (see discussion for site 41HP158A, Chapter 8, Results). Three natural strata were identified. These strata are described in stratigraphic order from oldest (lowest) to youngest (uppermost).

Stratum I is the weathered clay shale of the Kincaid Formation. It consists of layers of gray (10YR5/1) and olive yellow (2.5Y6/6) shale with evident bedding planes. It has an abrupt upper boundary at 50 cm below ground surface, and was excavated to a maximum depth of 3.0 m below ground surface in the backhoe trench through the well at 41HP158A. It is culturally sterile.

Stratum II is an olive (5Y5/4) silty clay with brownish yellow (10YR6/6) mottles. It has a gradual upper boundary at 20 cm below ground surface. Although some brick and heavy metal items were recovered from this stratum, it is essentially sterile.

Stratum III is a light olive brown (2.5Y5/4)

clay with brownish yellow (10YR6/6) mottles. This is the surface soil horizon. Originally a shallow A-horizon was present, but it has been removed by erosion. Historic and prehistoric artifacts have been incorporated into this stratum by the combined effects of cultivation, livestock trampling, and land modifications.

#### *Finley Branch: Alluvial Fan*

The backhoe and trackhoe trenches excavated in this area (Table 6-2) were briefly examined by Mandel, and samples were taken for laboratory analysis. Detailed stratigraphic descriptions are not provided for the backhoe trenches listed in Table 6-2. Instead, descriptions of representative stratigraphic profiles for this topographic setting, based on the results of grain-size analysis, are provided for three nearby test loci (i.e., sites 41HP155 [n=1] and 41HP159 [n=2]) below (see Stratigraphic Description of Finley Branch: BHTs 10 and 1, near site 41HP159).

#### *Finley Branch: South Sulphur River Floodplain*

This physiographic area (Table 6-3) has undergone extensive land disturbances in the form of cultivation and channelization and the construction of a levee along the new Finley Branch Canal. Three natural strata (Figure 6-5) were identified along the lower course of Finley Branch, leading to the South Sulphur River. The stratigraphic sequence near the confluence of the old and new channels of Finley Branch is best represented by sediments described in BHT 55.

Stratum I is a dark gray (2.5YR4/0) clay loam with very dark gray (2.5YR3/0) mottles. It has a gradual boundary at 65 cm below ground surface and was excavated to a maximum depth of 1.58 m below ground surface. It is culturally sterile.

Stratum II is a light yellowish brown (10YR6/4) clay loam with gray (10YR5/1) mottles. It has an indistinct upper boundary at 51 cm below ground surface. It is culturally sterile.

Stratum III is the surface soil horizon, which may have been thickened by modern construction activities related to the Finley Branch levee. It is a light yellowish brown (10YR6/4) clay loam with



TABLE 6-2

Profiles of Selected Backhoe Trenches Excavated in the Finley Branch Alluvial Fan and Floodplain/Slope, Cooper Lake Delivery Order Number 6 Study Area

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
51	2.30	0.70	0.31	CLL	10YR5/1
			0.75	CLL	10YR5/2; 2.5YR4/0 mottles
52	4.00	0.70	0.30	CLL	10YR3/1; 2.5YR4/0 mottles
			1.10	CLL	10YR5/2; 2.5Y4/0 mottles
53	3.00	0.70	0.56	CLL	2.5YR4/0
			1.05	CLL	2.5YR4/0; 10YR4/2 mottles
54	3.60	0.70	0.28	SCL	10YR6/4; 10YR4/2 mottles
			0.56	CL	2.5YR5/0
			1.50	CL	2.5YR4/0; 10YR4/2 mottles
56	3.60	0.70	0.28	CL	10YR6/4; 10YR4/1 mottles
			0.49	CL	2.5YR3/0
			1.30	CL	2.5YR4/0

Key: FSL = fine sandy loam; SC = sandy clay; SCL = sandy clay loam; C = clay; CLL = clay loam; CSL = clay silt loam; SSL = sandy silt loam; G = gravel.

TABLE 6-3

Profiles of Backhoe Trenches Excavated in the South Sulphur River Floodplain, Cooper Lake Delivery Order Number 6 Study Area

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
40	2.40	0.70	2.50	n.a.	n.p.
41	2.20	0.70	0.40	n.a.	n.a.
42	2.00	0.70	0.20	CLL	10YR3/1
			0.40	CLL	10YR6/4
43	2.20	0.70	0.20	CLL	10YR3/1
			0.75	CLL	10YR6/4
44	2.40	0.70	0.20	CLL	10YR3/1
			0.95	CLL	10YR5/1

Table 6-3 (cont.)

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
45	2.40	0.70	0.20	CLL	10YR3/1
			0.95	CLL	10YR5/1
46	1.50	0.70	0.90	CLL	10YR3/1
55	2.90	0.70	0.51	CL	2.5YR3/0; 10YR6/4 mottles
			0.65	CL	10YR6/4; 10YR5/1 mottles
			1.58	CL	2.5YR4/0

Key: FSL = fine sandy loam; SC = sandy clay; SCL = sandy clay loam; C = clay; CLL = clay loam; CSL = clay silt loam; SSL = sandy silt loam; G = gravel.

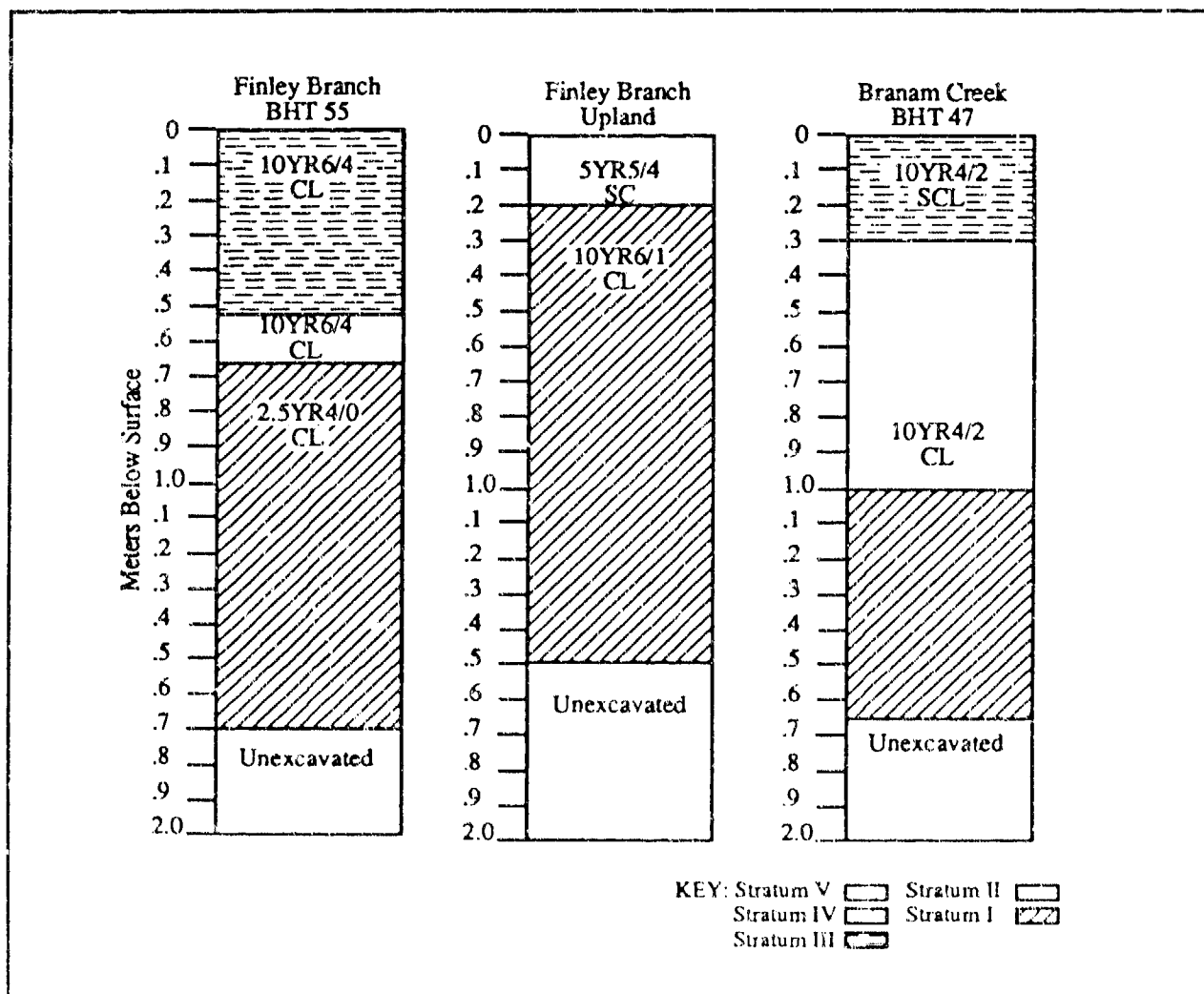


Figure 6-5. Representative stratigraphic profiles from the Finley Branch, Branam Creek, and South Sulphur River floodplain project segments, Cooper Lake Delivery Order Number 6 study area.

very dark gray (2.5YR3/0), dark gray (2.5YR4/0), and grayish brown (10YR5/2) mottles. It is culturally sterile.

From the confluence of both old and new channels of Finley Branch to the South Sulphur River, a single stratum was identified in all backhoe trenches. These trenches were excavated to over 3.0 m below ground surface and were examined from side walls and back dirt only. The single stratum is a very dark gray (10YR3/1) clay. Slickensides are common ca. 1.0-3.0 m, but are not evident ca. 0-1.0 m below ground surface. This stratum is culturally sterile.

#### *Branam Creek Channel and Floodplain*

Three natural strata (see Figure 6-5) were identified in all backhoe excavations in this physiographic area (Table 6-4). Branam Creek is a relatively minor drainage, flowing northward across the South Sulphur River floodplain apron. These strata vary somewhat in depth and thickness. The typical stratigraphic profile in this

portion of the study area, obtained from BHT 47, is discussed below in order from the oldest (lowest) to the youngest (uppermost) stratum.

Stratum I is a brown (10YR5/3) clay with very dark gray (10YR3/1) and yellowish red (5YR5/8) mottles. It has a gradual upper boundary at 1.1 m below ground surface and was excavated to a maximum depth of 1.63 m. It is culturally sterile.

Stratum II is a dark grayish brown (10YR4/2) clay loam with light yellowish brown (10YR6/4) mottles. It has an indistinct upper boundary at 30 cm below ground surface. What appears to be charcoal flecks are scattered throughout the stratum. It is culturally sterile.

Stratum III is the surface soil horizon which is the modern plow zone. It is a dark grayish brown (10YR4/2) sandy clay loam with dark gray (10YR4/1) and very pale brown (10YR7/4) mottles. Flecks of charcoal, possibly derived from modern land-clearance or agricultural practices, are scattered throughout the stratum. It is culturally sterile.

TABLE 6-4

Profiles of Backhoe Trenches Excavated in the Branam Creek Floodplain/Slope,  
Cooper Lake Delivery Order Number 6 Study Area

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
47	5.00	0.70	0.30	SLL	10YR4/2; 10YR7/4 mottles
			1.10	CLL	10YR4/2; 10YR6/4 mottles
			1.63	CL	10YR3/1; 5YR5/8 mottles
48	5.50	0.70	1.70	SCL	10YR4/2; 10YR6/6 mottles
49	3.00	0.70	0.20	SCL	10YR6/4; 10YR4/1 mottles
			0.40	SCL	10YR6/4; 10YR3/1 mottles
			1.25	CLL	10YR3/1; 7.5YR5/6 mottles
50	3.10	0.70	0.54	SCL	10YR4/1; 10YR6/4 mottles
			1.17	CLL	10YR4/1; 10YR6/2 mottles

Key: FSL = fine sandy loam; SC = sandy clay; SCL = sandy clay loam; C = clay; CLL = clay loam; CSL = clay silt loam; SsL = sandy silt loam; G = gravel.

***Buggy Whip Creek Floodplain***

Two natural strata (Figure 6-6) were identified in backhoe excavations within this physiographic zone (Table 6-5). The profile from BHT 68 is representative of this zone. The strata identified in this trench are described in stratigraphic order from older (lower) to younger (upper).

Stratum I is a grayish brown (10YR5/2) clay loam with yellowish brown (10YR5/8) mottles. It has an indistinct upper boundary at 27 cm below ground surface and was excavated to a maximum depth of 50 cm below surface. It is culturally sterile.

Stratum II is the surface soil horizon and the modern plow zone. It is a grayish brown (10YR5/2) clay loam. It is culturally sterile.

***Buggy Whip Creek Channel***

Four natural strata (see Figure 6-6) were identified in backhoe excavations within this physiographic zone (see Table 6-5). Backhoe Trench 74 provides a deep, representative profile section of this zone. The strata identified in this trench are described in stratigraphic order from oldest (lowest) to youngest (uppermost).

Stratum I is a dark gray (10YR4/1) clay loam with dominant yellowish brown (10YR6/4) and strong brown (7.5YR5/8) mottles. It has an indistinct upper boundary 1.4 m below ground surface and was excavated to a maximum depth of 2.14 m below surface. It is culturally sterile.

Stratum II is a dark gray (10YR4/1) clay loam with indistinct light yellowish brown (10YR6/4) and strong brown (7.5YR5/8) mottles. Calcium carbonate concretions are present. It has an indistinct upper boundary at 80 cm below ground surface and is culturally sterile.

Stratum III is a dark gray (10YR4/1) clay loam with yellowish brown (10YR6/4) mottles. It has a distinct lower boundary at 80 cm below ground surface and a indistinct upper boundary at 25 cm below ground surface. It is culturally sterile.

Stratum IV is the surface soil horizon, a historic plowzone at this locality. It is a dark gray (10YR4/1) silty clay loam with very dark gray (10YR3/1) and light brownish gray (10YR6/2)

mottles. It is culturally sterile in BHT 74.

***Posey Bottom***

This physiographic area is also known as the Harpers Crossing area and was used for the early historic overland route from Bonham to Jefferson, Texas. The Arnold site (41HP102) is located on this landform, which is a large promontory of sediment capped by the Nahatche soil, projecting into the South Sulphur River floodplain.

Three natural strata (see Figure 6-6) were identified in backhoe excavations (Table 6-6) throughout this area, which vary only slightly in thickness. BHT 59 provides a representative profile, and was the deepest excavation in this area. The strata identified in this trench are described in stratigraphic order from oldest (lowest) to youngest (uppermost).

Stratum I is a very dark gray (10YR3/1) to gray (10YR5/1) clay loam with light yellowish brown (10YR6/4) and strong brown (7.5YR5/6) mottles. It has a gradual upper boundary at 85 cm below ground surface and was excavated to a maximum depth of 1.5 m below ground surface. It is culturally sterile.

Stratum II is a very dark gray (10YR3/1) sandy clay loam with grayish brown (10YR5/2) mottles. It has an abrupt, wavy upper boundary at 5 cm below ground surface. It is culturally sterile.

Stratum III is the surface soil horizon. It is a brown (10YR5/3) fine sandy loam. This stratum varies in thickness across the Posey Bottom, and in areas is over 25 cm thick. It is culturally sterile in the BHT 59 locus.

***Doctors Creek Park and Vicinity,  
Doctors Creek, and Cannon Creek******Doctors Creek Park***

The Doctors Creek Park area is adjacent to the Cooper dam (see Figure 6-4). Figure 6-7 illustrates the generalized stratigraphic profile across the dam area as determined by CE drilling, Darwin's (1988) resistivity survey, and Ferring's (1993) study. This profile illustrates the downthrown fault block or "graben" which underlies the South Sulphur River valley (i.e., the Cooper Lake area). The linear downfaulted

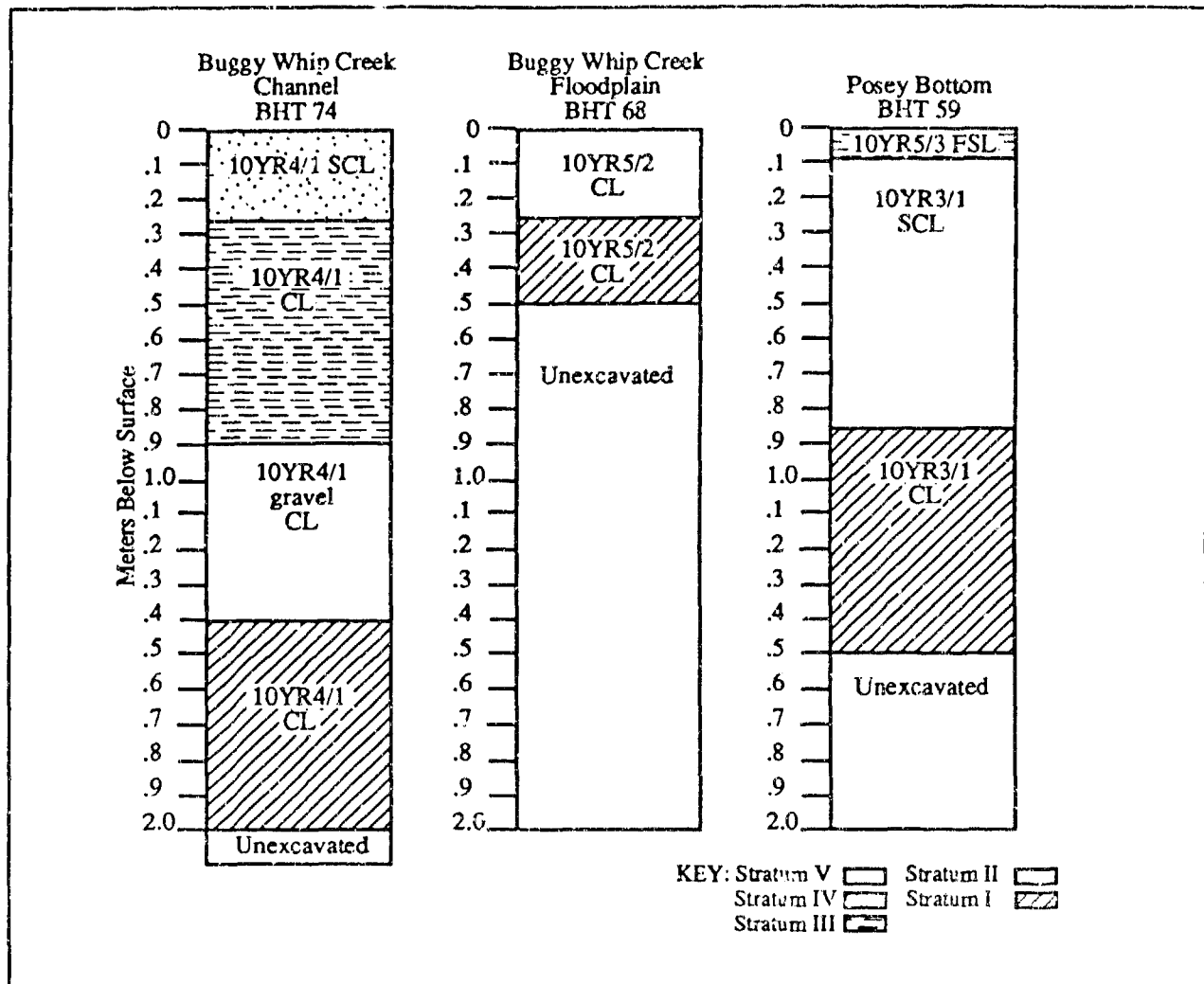


Figure 6-6. Representative stratigraphic profiles from the Buggy Whip Creek and Posey Bottom drainages, Cooper Lake Delivery Order Number 6 study area.

block apparently accommodated streams that flowed along a course similar to the present South Sulphur River drainage. That ancient stream must have partially filled its much shallower broad valley with a layer of alluvium that now only exists as terrace deposits. Ferring (1993:E-15) has postulated an erosional episode which, after the ancient valley filled, dissected the alluvium to sculpt the valley fringing shelf or isolated hummocks of the landform now called the Doctors Creek Terrace. The downcutting episode apparently occurred in the Pleistocene or Early Holocene.

Also shown in Figure 6-7 is the position of the Pleistocene or pre-Pleistocene erosional surface

that begins at the terrace surface and traces down its face, plunging beneath the entire package of Holocene valley fill. This is the erosional surface that forms the base of the lower stratum which underlies site 41DT124, where several facies of alluvium indicate its origin as a channel fill and vertical accretion.

Prior to infilling of the present valley, the deepest channel, shown partially filled with lag gravel, was cut near the southern valley wall (see Figure 6-7). The South Sulphur meander belt apparently has progressively shifted back and forth across the valley, most recently moving progressively to the north where it is presently situated. The sediments contributed by alluvial

TABLE 6-5

Profiles of Backhoe Trenches Excavated in the Buggy Whip Creek Drainage,  
Cooper Lake Delivery Order Number 6 Study Area

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
<i>Floodplain/Channel</i>					
74	4.10	0.70	0.25	CSL	10YR4/1; 10YR6/2 mottles
			0.80	CL	10YR4/1; 10YR6/4 mottles
			1.40	CL-G	10YR4/1; 7.5YR5/8 mottles
			2.14	CL	10YR4/1; 10YR6/4 mottles
77	2.60	0.70	0.30	SL	10YR6/4
			0.57	CSL	10YR4/1; 10YR6/4 mottles
			1.07	CL	10YR3/1; 10YR4/1 mottles
86	2.70	0.70	0.80	FSL	10YR3/1; 7.5YR5/8 mottles
			0.93	SCL	10YR5/6; 2.5Y3/0 mottles
<i>Floodplain</i>					
68	2.20	0.70	0.27	CL	10YR5/2
			0.50	CL	10YR5/2; 10YR5/8 mottles
69	2.50	0.70	0.21	FSL	10YR6/2
			0.36	SCL	10YR4/2
70	2.50	0.70	0.25	SL	10YR3/1; 10YR6/2 mottles
			0.35	CSL	10YR3/1; 10YR4/1 mottles
71	3.00	0.70	0.08	SL	10YR3/1; 10YR6/2 mottles
			0.27	CSL	10YR3/1; 10YR6/6 mottles
75	2.90	0.70	0.35	SL	10YR6/3
			0.95	CL	10YR6/4; 5YR5/8 mottles
			1.20	CL	10YR6/4; 7.5YR5/8 mottles
76a,b	2.00	0.70	0.50	SL	n.a.
78	2.10	0.70	0.14	SL	10YR3/2
			0.44	SL	10YR3/1; 5YR5/8 mottles
			0.60	CSL	10YR6/1; 5YR5/8 mottles
			0.80	CSL	10YR6/1; 5YR5/8 mottles
79	1.70	0.70	0.08	CL	10YR3/1; 10YR4/2 mottles
			0.58	CL	10YR6/1; 5YR5/8 mottles
			0.78	C	10YR5/1; 5YR5/8 mottles

Table 6-5 (cont.)

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
80	2.95	0.70	0.16 0.50	SL SCL	10YR4/2 10YR3/1; 5YR5/8 mottles
81	2.30	0.70	0.51 1.00	CL CL	2.5Y5/2; 2.5Y2/0 mottles 2.5Y2/0; 2.5Y5/2 mottles
82	2.80	0.70	0.37 0.95	CSL CSL	10YR5/2 10YR3/1; 10YR5/2 mottles
83	2.50	0.70	0.54 1.30	CSL CSL	10YR6/1; 7.5YR5/6 mottles 10YR5/2; 10YR3/1 mottles
84	4.00	0.70	0.27 0.57 2.00	CSL SL CL	10YR5/2 10YR5/2; 7.5YR5/8 mottles 10YR3/1; 10YR5/4 mottles
85	2.50	0.70	0.47 1.30	SCL CL	10YR5/2; 10YR7/1 mottles 10YR4/1; 10YR5/4 mottles
87	2.40	0.70	0.72	CL	2.5Y5/2; 5YR5/8 mottles
<i>Floodplain/Slope</i>					
72	2.00	0.70	0.65	CL	10YR3/1; 10YR6/4 mottles
73	2.10	0.70	0.20 0.90	SL CL	10YR3/2; 10YR4/2 mottles 10YR3/1; 10YR6/4 mottles
76	2.50	0.70	0.22 0.70	SL CL	10YR6/2 10YR4/1; 7.5YR5/8 mottles

Key: FSL = fine sandy loam; SC = sandy clay; SCL = sandy clay loam; C = clay; CLL = clay loam; CSL = clay silt loam; SSL = sandy silt loam; G = gravel.

TABLE 6-6

Profiles of Backhoe Trenches Excavated in the Posey Bottom Drainage,  
Cooper Lake Delivery Order Number 6 Study Area

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
57	2.00	0.70	0.10	FSL	10YR5/3
58	2.50	0.70	0.10 0.96	FSL SCL	10YR5/3 10YR6/6; 10YR4/2 mottles
59	3.00	0.70	0.05 0.85 1.50	FSL SCL CL	10YR5/3 10YR3/1; 10YR5/2 mottles 10YR5/1; 7.5YR5/6 mottles
60	2.30	0.70	0.10 0.52 0.80 1.00	FSL SCL SCL CL	10YR6/3 10YR6/4; 10YR5/2 mottles 10YR6/4; 10YR3/1 mottles 10YR3/1
61	2.50	0.70	0.08 0.91	SCL CL	10YR6/4 10YR6/4; 10YR3/1 mottles
62	2.40	0.70	0.05 1.17	FSL SCL	10YR6/3 10YR3/1; 10YR6/4 mottles
63	2.00	0.70	0.67	SL	10YR6/4; 10YR3/1 mottles
64	2.50	0.70	0.19 0.82 1.10	SL SCL SCL	10YR4/2 10YR6/4; 10YR5/2 mottles 10YR3/1; 10YR5/2 mottles
65	2.75	0.70	0.05 0.75	SL CL	10YR5/3 10YR6/4; 10YR3/1 mottles
66	2.80	0.70	0.27 0.60 1.03	SCL SCL SCL	10YR5/4; 10YR5/2 mottles 10YR3/1; 10YR6/4 mottles 10YR3/1; 7.5YR5/6 mottles
67	3.00	0.70	1.15	SCL	10YR4/1; 10YR6/4 mottles
91	2.20	0.70	0.35 0.86 2.60	CSL CSL CSL	10YR5/4 10YR5/4; 10YR3/1 mottles 10YR5/4; 10YR3/1 mottles



Table 6-6 (cont.)

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
92	3.90	0.70	0.50 0.71 1.68	SL CL CL	10YR3/1 10YR6/4; 10YR4/1 mottles 10YR3/1; 5YR5/8 mottles
92a	2.00	0.70	0.80	n.a.	n.a.
92b	2.00	0.70	0.80	n.a.	n.a.
93	2.30	0.70	0.11 0.68	SCL CSL	10YR5/3 10YR5/1; 2.5YR4/6 mottles
94	2.60	0.70	0.10 0.93	SCL CSL	10YR5/3 10YR5/1; 10YR4/1 mottles
95	n.a.	n.a.	n.a.	n.a.	n.a.
96	n.a.	n.a.	n.a.	n.a.	n.a.
98	2.90	0.70	0.20 0.90 1.30	SCL SCL SCL	10YR4/2 10YR5/3 10YR5/1; 10YR6/4 mottles
99	3.00	0.70	2.60	n.a.	n.a.
100	3.00	0.70	2.50	n.a.	n.a.
101	3.00	0.70	2.47	n.a.	n.a.
102	4.00	0.70	2.60	n.a.	n.a.
103	3.05	0.70	0.30 0.50 1.00 1.80	CSL CL CL CL	10YR6/4; 10YR4/2 mottles 10YR3/1; 10YR5/4 mottles 10YR4/1; 10YR5/6 mottles 10YR5/1; 10YR5/8 mottles
104	3.30	0.70	2.80	n.a.	n.a.

Key: FSL = fine sandy loam; SC = sandy clay; SCL = sandy clay loam; C = clay; CLL = clay loam; CSL = clay silt loam; SSL = sandy silt loam; G = gravel.

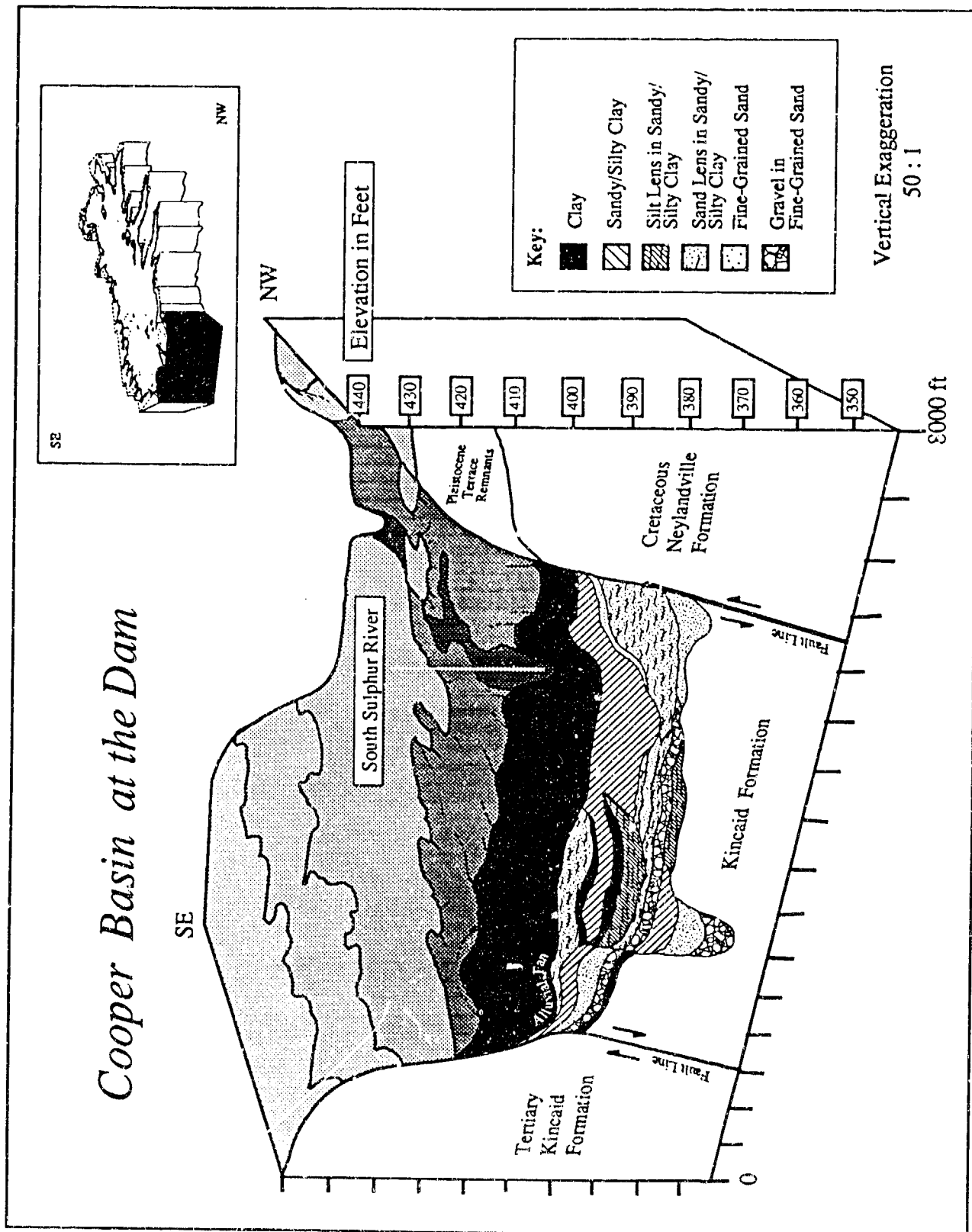


Figure 6-7. Schematic stratigraphic profile of the Cooper Basin in the Dam Axis region, Cooper Lake Delivery Order Number 6 study area.

fans originating from the steep southern escarpment may have contributed sediment to the valley floor (mantled by the Nahatche soil), which resulted in the progressive northward shift in the meander belt to its present position.

Groundforms which are referred to as pimple mounds and pimple mound fields are also present in the Doctors Creek area. The origin of these features is a matter of some controversy, but they apparently are some sort of patterned ground phenomenon which has formed naturally in many areas underlain by alluvial sediment, such as the alluvial valley of the Mississippi River (O'Brian, Lyman, and Holland 1989). Individual mounds may have a relief of 0.2-1.5 m and may range from 3-20 m in diameter. These features have been found in clusters numbering from 10 to over 200, and extending over an area as great as 10 ha (24.7 acres). The slight elevation above the surrounding lands afforded by these features appears to have been attractive to populations for thousands of years in the many locations where they occur, and archaeological sites are often found in association with them.

Geomorphological features and several archaeological sites were thoroughly investigated utilizing backhoe trenching within the Doctors Creek Park (41DT118) and within the floodplain (41DT124) and slope (41DT126) areas of Doctors Creek adjacent to the park. These studies were performed by Ferring (1993) under Delivery Order Number 4. They were augmented by the present extensive trenching of the area again using a backhoe. Investigations were conducted in the floodplain of Doctors and Cannon creeks and slope area. Some pimple mound fields were also partially dissected. The stratigraphic sequence described at site 41DT124 is representative of much of the Doctors Creek area.

#### *Doctors Creek Floodplain*

The densely wooded portions of the Doctors Creek floodplain were difficult to fully investigate during the present backhoe excavations. Prehistoric sites 41DT149, 41DT150, and 41DT151 were located on rises at the junction of the lower slope and floodplain physiographic zones

of Doctors Creek. Backhoe Trench 7, located 250 m (820 ft) west of Cannon Creek and 160 m (524 ft) north of Doctors Creek, was the deepest penetration into the floodplain that was possible due to dense vegetation. Three natural strata (Figure 6-8) were identified in backhoe excavations (Table 6-7) in the Doctors Creek floodplain. These are discussed in order from oldest (lowest) to youngest (uppermost).

Stratum I is a gray (10YR5/1) sandy clay loam. It has an indistinct upper boundary at 75 cm below ground surface and was excavated to a maximum depth of 1.5 m below ground surface. It is culturally sterile.

Stratum II is a light gray (10YR6/1) sandy clay loam. It has a gradual upper boundary at 25 cm below ground surface. It is culturally sterile.

Stratum III is the surface soil horizon. It is a very gray (10YR3/1) sandy clay loam. It is culturally sterile.

#### *Doctors Creek Floodplain/Slope*

Ten backhoe trenches were excavated in this physiographic area (see Table 6-7) west of Cannon Creek, which is classified as a pimple mound field (see discussion above). BHT 11 provides a representative profile between pimple mounds, and BHT 13 provides a representative profile on a pimple mound which does not contain cultural materials. Four natural strata were identified in BHT 11 (see Figure 6-8), located between pimple mounds. These are discussed in order from oldest (lowest) to youngest (uppermost).

Stratum I is a light yellowish brown (10YR6/4) sandy clay loam with grayish brown (10YR5/2) and red (2.5YR4/8) mottles. It has a gradual upper boundary at 56 cm below ground surface and was excavated to a maximum depth of 89 cm below ground surface. It is culturally sterile.

Stratum II is a light yellowish brown (10YR6/4) silt loam with light brownish gray (10YR6/2) and dark gray (10YR4/1) mottles. It has a gradual upper boundary at 20 cm below ground surface. It is culturally sterile.

Stratum III is a light yellowish brown (10YR6/4) silt loam with light brownish gray

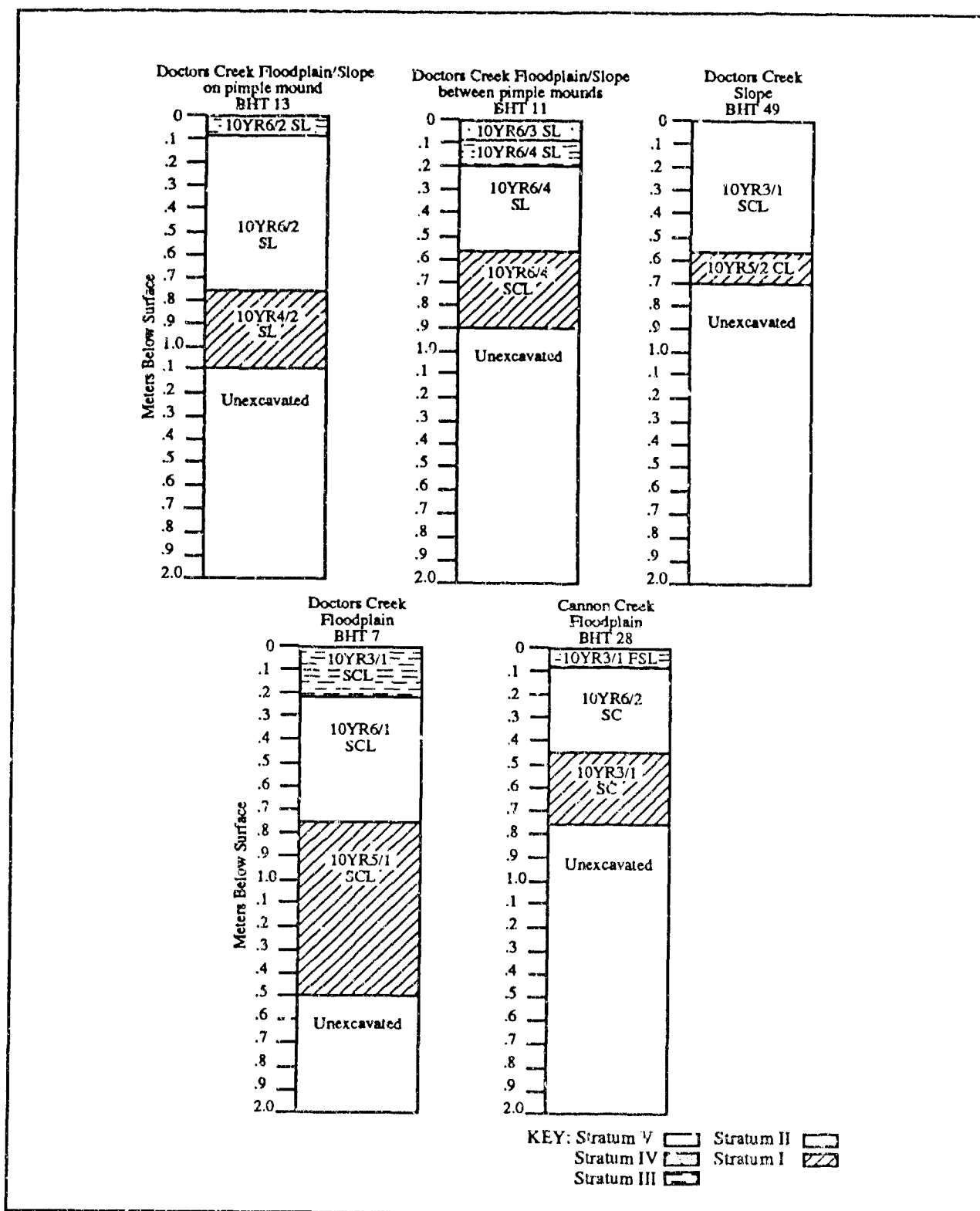


Figure 6-8. Representative stratigraphic profiles from the Doctors Creek and Cannon Creek drainages, Cooner Lake Delivery Order Number 6 study area.

TABLE 6-7

Profiles of Backhoe Trenches Excavated in the Doctors Creek Drainage,  
Cooper Lake Delivery Order Number 6 Study Area

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
Floodplain					
1	2.40	0.70	0.10	SL	10YR4/1
			0.15	SL	10YR6/2
2	2.00	0.70	0.10	SL	10YR6/2; 10YR6/3 mottles
			0.35	SCL	10YR4/1; 7.5YR5/8 mottles
			0.45	SCL	10YR6/1; 7.5YR5/8 mottles
			0.97	SCL	10YR4/1; 7.5YR5/8 mottles
3	2.34	0.70	0.07	SL	10YR4/2
			0.37	SL	10YR6/4
4	2.10	0.70	0.07	SL	10YR4/1
			0.40	SCL	10YR4/1; 10YR3/1 mottles
			0.73	CL	10YR4/1
5	1.90	0.70	0.06	SL	10YR3/2
			0.10	SL	10YR5/2
			0.13	SL	10YR7/2
			0.53	CL	10YR6/2; 5YR5/8 mottles
6	2.10	0.70	0.04	SL	10YR4/1
			0.45	SL	10YR6/3
			0.85	SCL	10YR7/1; 7.5YR5/8 mottles
7	3.00	0.70	0.25	SCL	10YR3/1
			0.75	SCL	10YR6/1
			1.50	SCL	10YR5/1
54	2.25	0.70	0.14	SL	10YR3/1
			1.10	CL	2.5YR4/1
55	2.90	0.70	0.58	CL	10YR3/1
			1.35	CL	10YR4/1
			1.42	CL	10YR5/2
Floodplain/Slope					
9	2.60	0.70	0.04	SL	10YR4/1
			0.45	SL	10YR6/3; 10YR6/2 mottles

Table 6-7 (cont.)

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
10	2.30	0.70	0.13 0.86 0.90	SL CSL SCL	10YR3/2 10YR6/3 10YR6/1; 7.5YR4/6 mottles
11	2.00	0.70	0.07 0.20 0.56 0.89	SL SL SL SCL	10YR4/1; 10YR6/3 mottles 10YR6/4; 10YR6/2 mottles 10YR6/4; 10YR4/1 mottles 10YR6/4; 2.5YR4/8 mottles
12	2.60	0.70	0.45 0.88	L SL	10YR4/1 10YR6/2; 10YR4/1 mottles
13	2.50	0.70	0.05 0.78 1.07	SL SL SL	10YR6/2; 10YR6/6 mottles 10YR6/2; 10YR6/3 mottles 10YR4/2; 10YR6/2 mottles
14	2.30	0.70	0.21 0.72 0.92	SL SL CL	10YR4/1; 5YR5/8 mottles 10YR6/2; 7.5YR5/8 mottles 10YR4/1; 10YR3/2 mottles
15	2.00	0.70	0.05 0.25	SL SCL	10YR6/2; 5YR5/8 mottles 5YR5/8; 10YR6/2 mottles
16	2.70	0.70	0.20 0.63	SL CL	10YR4/1; 10YR6/2 mottles 10YR4/1
30	2.40	0.70	0.06 0.67	SL SCL	10YR6/2; 10YR3/1 mottles 10YR6/2; 7.5YR5/8 mottles
34	2.50	0.70	0.40 0.60	SL SCL	10YR6/2 5YR5/8
<i>Slope</i>					
31	2.50	0.70	0.10 0.43 0.81 1.00	SL SL SCL CL	10YR4/3 10YR5/4 10YR5/4; 10YR6/2 mottles 10YR6/2; 7.5YR5/6 mottles
32	2.60	0.70	0.11 0.77 0.88	SL, G SL, G SL, G	10YR3/1 10YR6/2; 7.5YR5/6 mottles 10YR6/3; 7.5YR5/6 mottles

Table 6-7 (cont.)

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
33	2.60	0.70	0.02	SL	10YR4/1
			0.60	SL, G	10YR6/2; 10YR6/6 mottles
			0.66	SL	10YR7/2; 5YR5/8 mottles
			0.78	SC	10YR6/2; 2.5YR4/8 mottles
35	2.00	0.70	0.22	SL	10YR4/3; 10YR6/2 mottles
36	2.37	0.70	0.45	SL	10YR6/2
			0.76	SL	10YR6/2; 10YR7/2 mottles
			0.92	SCL	10YR7/2; 7.5YR5/8 mottles
37	2.45	0.70	0.64	SL	10YR6/2
			0.75	SCL	10YR7/2; 5YR5/8 mottles
38	2.20	0.70	0.07	SL	10YR6/4; 10YR3/1 mottles
			0.40	SL	10YR6/6; 5YR5/8 mottles
39	2.60	0.70	0.30	SL	10YR4/2
			0.51	SL	7.5YR6/8
			0.62	SCL	5YR5/8; 10YR7/2 mottles
46	2.40	0.70	0.06	SL	10YR5/2
			0.49	SL	10YR3/1; 5YR5/8 mottles
			0.56	SCL	10YR7/1; 5YR5/8 mottles
47	2.60	0.70	0.10	SL	10YR7/2
			0.36	CL	10YR7/1; 5YR5/8 mottles
48	2.60	0.70	0.18	SCL	10YR4/2; 5YR5/8 mottles
			0.38	CL	10YR4/3; 5YR5/8 mottles
49	2.90	0.70	0.57	SL	10YR3/1
			0.69	CL	10YR5/2; 2.5YR4/8 mottles
50	2.40	0.70	0.32	SL	10YR3/1
51	4.10	0.70	0.13	SL	10YR4/1
			0.51	CSL	10YR4/2
51a	4.00	0.70	0.50	SL	n.a.

Table 6-7 (cont.)

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
52	2.20	0.70	0.06 0.41	SL CSL	10YR6/2; 7.5YR5/8 mottles 10YR3/1; 5YR5/8 mottles
53	2.30	0.70	0.13 0.56 1.08	SL CSL CL	10YR6/2 10YR3/1 10YR4/1

Key: FSL = fine sandy loam; SC = sandy clay; SCL = sandy clay loam; C = clay; CLL = clay loam; CSL = clay silt loam; SSL = sandy silt loam; G = gravel.

(10YR6/2) mottles. It has a distinct upper boundary at 7 cm below ground surface. It is culturally sterile.

Stratum IV, the surface soil horizon, is a dark gray (10YR4/1) silt loam with pale brown (10YR6/3) mottles. It is culturally sterile.

Backhoe Trench 13 is situated on a pimple mound and provides a slightly different stratigraphic sequence. Three natural strata were identified (see Figure 6-8). These are discussed in order from oldest (lowest) to youngest (uppermost).

Stratum I is a dark brownish gray (10YR4/2) silt loam with brownish gray (10YR6/2) mottles. It has an indistinct upper boundary at 78 cm below ground surface and was excavated to 1.07 m below ground surface. It is culturally sterile.

Stratum II is a light brownish gray (10YR6/2) silt loam with pale brown (10YR6/3) mottles. It has an indistinct upper boundary at 5 cm below ground surface. It is culturally sterile.

Stratum III is the surface soil horizon. It is a light brownish gray (10YR6/2) silt loam with dark gray (10YR4/1) and brownish yellow (10YR6/6) mottles. It is culturally sterile.

#### *Doctors Creek Slope*

Two natural strata (see Figure 6-8) were identified in this physiographic zone (see Table 6-7). BHT 49 provided a representative profile.

The strata identified in this trench are described in stratigraphic order from older (lower) to younger (upper).

Stratum I is a grayish brown (10YR5/2) clay loam with gray (10YR6/1), strong brown (7.5YR5/8), and red (2.5YR4/8) mottles. It has a distinct upper boundary at 57 cm below ground surface and was excavated to a maximum depth of 69 cm below ground surface. It is culturally sterile.

Stratum II, the surface soil horizon, is a very dark gray (10YR3/1) silty clay loam. It is culturally sterile.

#### *Cannon Creek Floodplain*

Three natural strata (see Figure 6-8) were identified in this physiographic zone (Table 6-8). BHT 28 provided a representative profile, 45 m north of the Cannon Creek channel. The strata identified in this trench are described in stratigraphic order from oldest (lowest) to youngest (uppermost).

Stratum I is a very dark gray (10YR3/1) sandy clay with light brownish gray (10YR6/2) mottles. It has a gradual upper boundary at 44 cm below ground surface and was excavated to a maximum depth of 74 cm below ground surface. It is culturally sterile.

Stratum II is a light brownish gray (10YR6/2) sandy clay. It has an abrupt, wavy upper boundary



TABLE 6-8

Profiles of Selected Backhoe Trenches Excavated in the Cannon Creek Drainage,  
Cooper Lake Delivery Order Number 6 Study Area

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
<i>Floodplain</i>					
8	2.00	0.70	0.05	SL	10YR4/2
			0.20	SL	10YR5/3
			0.48	SSL	10YR4/2; 7.5YR5/6 mottles
			0.49	FSL	10YR6/2
			0.53	SSL	10YR4/2
			0.58	SSL	10YR7/1
			0.68	SCL	10YR6/2
			0.88	CL	10YR4/1
28	2.70	0.70	0.04	FSL	10YR3/1; 10YR6/2 mottles
			0.44	SC	10YR6/2
			0.74	SC	10YR3/1; 10YR6/2 mottles
29	3.70	0.70	0.05	FSL	10YR3/1; 7.5YR5/6 mottles
			0.22	SC	5YR5/8
			0.40	SC	5YR5/8; 10YR6/2 mottles
40	3.83	0.70	0.91	SL	10YR4/2; 7.5YR6/8 mottles
			1.25	CL	10YR6/2; 2.5YR4/8 mottles
41	2.80	0.70	0.05	SL	10YR3/1; 10YR6/4 mottles
			0.20	SL	10YR5/2; 10YR4/2 mottles
			0.31	SL	10YR4/2; 10YR6/6 mottles
42	2.70	0.70	0.05	SL	10YR3/1; 10YR6/4 mottles
			0.69	SL	10YR6/4; 5YR5/8 mottles
			0.74	SC	10YR6/1; 2.5YR4/8 mottles
43	3.10	0.70	0.03	SL	10YR5/2; 10YR6/2 mottles
			0.86	SL	10YR6/6; 5YR5/8 mottles
			1.00	SC	10YR6/2; 5YR5/8 mottles
44	2.20	0.70	0.03	SL	10YR4/2
			0.39	SL	10YR6/4
			0.40	SCL	10YR7/1; 5YR5/8 mottles
44a	2.50	0.70	0.60	n.a.	n.a.
45	2.50	0.70	0.05	SL	10YR3/1
			0.28	SL	10YR6/4

Table 6-8 (cont.)

BHT	Length (m)	Width (m)	Depth (m)	Texture	Munsell
Floodplain/Slope					
16	2.00	0.70	0.19	SL	10YR6/2; 5YR5/8 mottles
			0.35	SCL	5YR5/8; 10YR6/2 mottles
17	2.40	0.70	0.06	SL	10YR7/1
			0.50	CL	10YR4/2; 7.5YR5/8 mottles
19	2.30	0.70	0.05	SL	10YR4/1; 10YR5/3 mottles
			0.43	SL	10YR6/2; 10YR6/8 mottles
20	1.90	0.70	0.13	SL	10YR6/2
			0.30	CL	10YR6/2; 7.5YR5/6 mottles
21	2.54	0.70	0.08	SL	10YR4/2; 10YR6/8 mottles
			0.56	SL	10YR6/2; 10YR5/8 mottles
23	2.80	0.70	0.04	SL	10YR3/1; 10YR6/2 mottles
			0.80	SL	10YR6/2; 10YR6/6 mottles
			1.03	SC	10YR6/1; 10YR6/8 mottles
24	2.98	0.70	0.06	SL	10YR3/1; 10YR6/2 mottles
			0.14	SL	10YR5/8; 10YR6/2 mottles
			0.46	SL	10YR6/2
			0.50	SL	10YR6/2; 10YR5/8 mottles
25	2.70	0.70	0.06	SL	10YR4/1; 10YR6/2 mottles
			0.50	SL	10YR6/2; 10YR6/4 mottles
			0.60	SL	10YR6/2; 7.5YR5/8 mottles
			0.69	CL	7.5YR5/8; 10YR6/4 mottles
26	2.80	0.70	0.06	SL	10YR4/2; 10YR4/1 mottles
			0.46	SL	10YR7/2; 5YR5/6 mottles
27	2.90	0.70	0.06	SL	10YR4/2; 10YR6/2 mottles
			0.37	SL	10YR6/2; 7.5YR5/6 mottles
Slope					
22	3.00	0.70	0.04	SL	10YR3/2
			0.63	SL	10YR3/1; 10YR6/6 mottles
			0.82	CL	2.5YR5/8; 10YR6/1 mottles

Key: FSL = fine sandy loam; SC = sandy clay; SCL = sandy clay loam; C = clay; CLL = clay loam; CSL = clay silt loam; SSL = sandy silt loam; G = gravel.

at 4 cm below ground surface. It is culturally sterile.

Stratum III is the surface soil horizon. It is a very dark gray (10YR3/1) fine sandy loam with light brownish gray (10YR6/2) mottles. It is culturally sterile.

## ALLUVIAL DEPOSITS IN THE FINLEY BRANCH CHANNEL AND FAN

### Finley Branch Fan

One of the most important physiographic features within the project area is the apron of sediment that has formed along the southern wall of the South Sulphur River floodplain. This is considered to be a series of alluvial fans which in places have coalesced to form the landform. Figure 6-9 illustrates, in a general manner, the makeup of the Finley Branch alluvial fan. Sediments were derived primarily from the uplands, but undoubtedly floodplain deposits of the South Sulphur River are interlayered, particularly in the toe region. Detailed investigations were concentrated along the stream channel and in the vicinity of the fan deposits due to their potential for containing buried sites and due to the fortuitous exposures in the natural stream channel and in the artificial channel.

Upstream from the fan along Finley Branch is the Deep Creek Crossing area (41HP155). To provide access for observation and mechanical trenching, SMU personnel enlarged and recontoured the crossing. A 300 m<sup>2</sup> area was exposed. A radiocarbon date of A.D. 961  $\pm$  65 (989  $\pm$  65 B.P.; dendrocalibrated, SMU-2292), was obtained from a lens of wood charcoal ca. 2.0 m below ground surface and 60 cm above a gravel lens (above the 4.39-4.79 m paleosol) at 41HP155. This assay suggests that the rate of sediment accumulation in the area may have been considerably more rapid than that indicated by the humate date of 7380  $\pm$  170 B.C. (9830  $\pm$  170 B.P.; Beta 17412) reported by Bousman, Collins, and Pertulla (1988:66). The three buried soils noted by Bousman, Collins, and Pertulla (1988) are visible in cutbank exposures immediately above and below Deep Creek Crossing (41HP155).

Based on all of these studies, regardless of which date is correct, it is apparent that a considerable thickness of early and middle Holocene deposits are stored in this valley-margin setting. These deposits and their associated paleosols do have high potential for containing Middle Archaic and earlier sites, although they may be deeply buried in some areas and shallower in others. However, despite close inspection of all stream channels, cut banks, and backhoe trenches, there were only two deeply buried sites (41HP159 and 41HP175) and a single shallow site (41HP160) encountered along the Finley Branch cut banks.

### Stratigraphic Description and Grain-Size Analysis

#### *Cut Bank Near Site 41HP155*

As shown in Table 6-9, 20 sediment samples were analyzed from the cut bank profile near site 41HP155. These extend to 6.3 m below ground surface. Additional sediments were present, but could not be obtained due to encroaching groundwater. It is estimated that at least 7 m of alluvium has accumulated in the areas of sites 41HP155 and 41HP160.

Ten natural strata (Figure 6-10) were identified within and adjacent to the mapped limits of site 41HP155. A 6.3 m profile was described by Mandel and 20 sediment samples were submitted to the Texas A&M Soil Characterization Laboratory for particle-size analysis (i.e., sand-, silt-, or clay-sized fractions). The field descriptions and particle size results were used to classify the strata. These strata are described in relative order from oldest (lowest) to youngest (uppermost).

Stratum I is a dark yellowish brown (10YR4/4) silty clay loam with reddish yellow (7.5YR7/8) to yellowish red (5YR5/6) to gray (2.5YR5/0) mottles. It has a gradual upper boundary at 5.49 m below ground surface and was excavated to a maximum depth of 6.3 m below ground surface. It is culturally sterile. There is some apparent soil development within this stratum. It has two B<sub>gh</sub> soil horizons 5.7-6.3 m below ground surface, overlain by an Ab soil horizon.

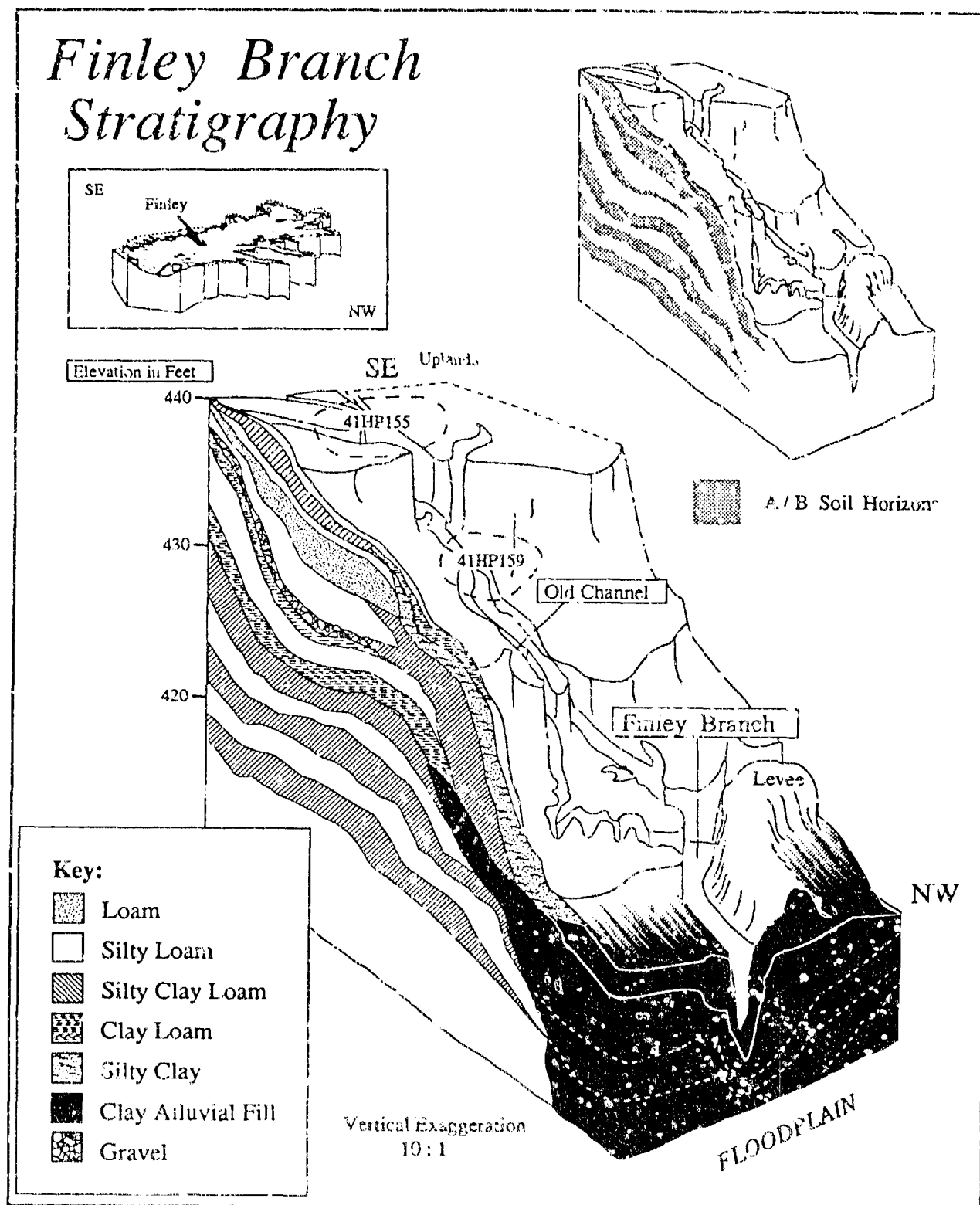


Figure 6-9. Schematic stratigraphic profile of Finley Branch, Cooper Lake Delivery Order Number 6 study area.

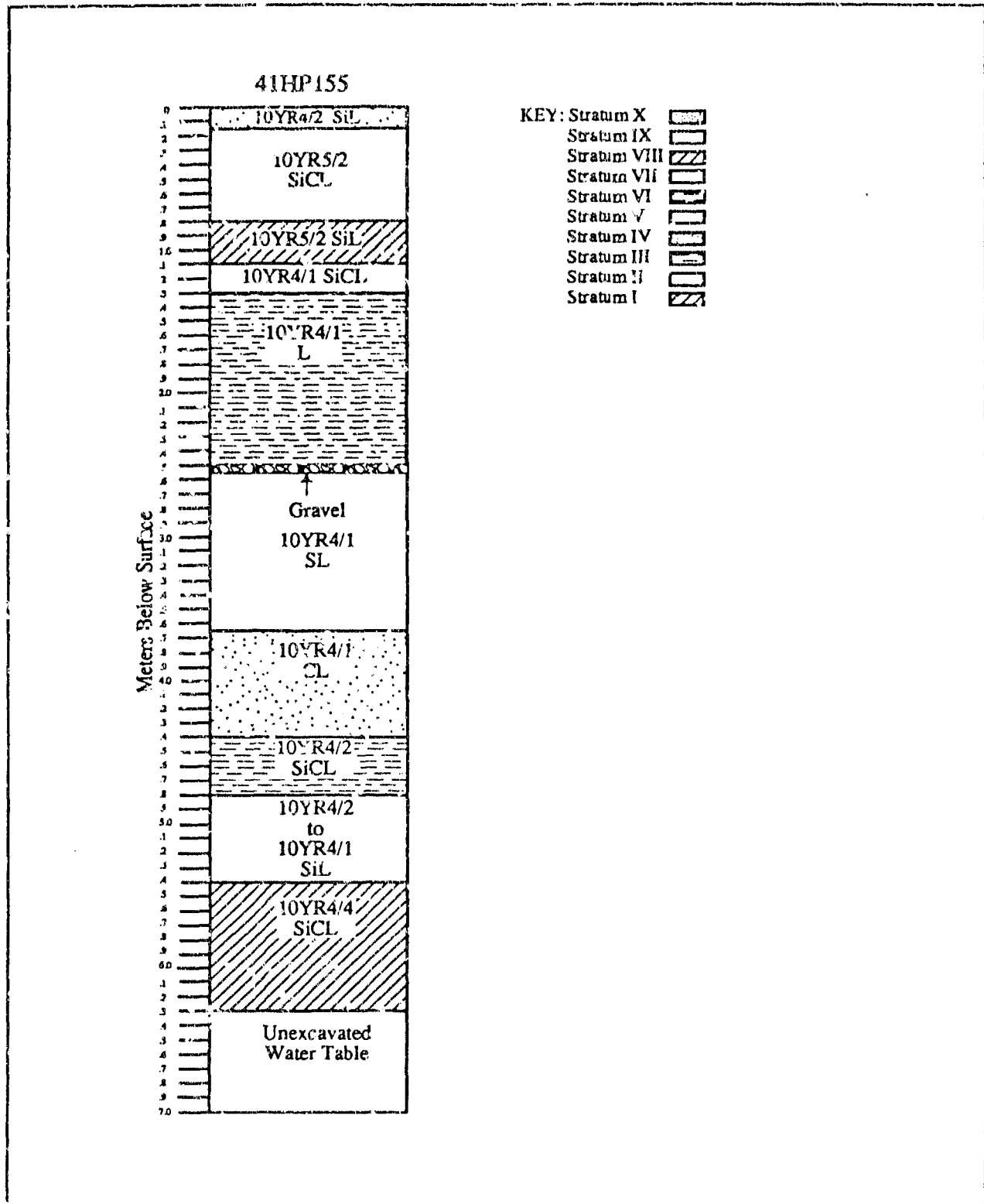


Figure 6-10. Stratigraphic profile of site 41HP155, located within the Finley Branch Fan, Cooper Lake Delivery Order Number 6 study area.

TABLE 6-9

Soil Textural Percentages from Backhoe and Trackhoe Excavations at Site 41HP155,  
Cooper Lake Delivery Order Number 6 Study Area

Soil Horizon	Depth (cm)	Sand (2.0-0.05)	Silt (0.2-0.002)	Clay (<0.002)	Texture
Ap	0-15	27.3	51.6	21.1	SiL
A	15-35	17.0	54.3	28.7	SiCL
AC	35-45	17.4	54.9	27.7	SiCL
C	45-82	19.1	53.4	27.2	SiCL
2Ab1	82-110	24.0	52.4	23.6	SiCL
2AB2	110-130	21.5	53.3	25.2	SiCL
2ABb	130-150	38.3	39.4	22.3	L
2Bsb1	150-190	29.8	44.3	26.0	L
2Bwb2	190-230	32.7	41.8	25.5	L
2BCb	230-255	30.9	45.3	23.8	L
2Cb1	255-285	31.2	43.8	25.0	SiL
2Cb2	285-338	26.2	47.8	26.0	SiL
2Cb3	338-364	15.4	74.9	9.7	SiL
2Cb4	364-384	22.0	46.0	32.0	CL
2Cb5	384-439	24.1	47.3	28.6	CL
3Akb	439-479	13.7	53.8	32.5	SiCL
3Ckb	479-549	23.0	50.7	26.3	SiL
4Ab	549-570	9.6	58.5	31.6	SiCL
4Bgb1	570-600	12.9	56.8	30.3	SiCL
4Bgb2	600-630	13.6	57.6	28.8	SiCL

Stratum II is a dark grayish brown (10YR4/2) to brown (10YR4/3) silt loam. It has an abrupt upper boundary at 4.79 m below ground surface. It is culturally sterile and is classified as a CKb soil horizon.

Stratum III is a dark grayish brown (10YR4/2) silty clay loam with reddish gray (5YR5/2) to gray (2.5YR5/0) mottles. It has a gradual upper boundary at 4.39 m below ground surface. A humate date of  $7880 \pm 170$  B.C. (9830  $\pm 170$  B.P. [Beta 17412]) was obtained by Bousman, Collins, and Perttula (1988) from a nearby locality ca. 150 m upstream within a level that appears to be in approximately the same stratigraphic position as this level at site 41HP155. Stratum III is culturally sterile, and is classified as an Akb horizon. Strata II and III form the lower paleosol at site 41HP155 and the Deep Creek Crossing area at Finley Branch.

Stratum IV is a dark grayish brown (10YR4/1 to 10YR4/2) clay loam. It has an indistinct upper boundary at 3.64 m below ground surface. It is culturally sterile, and is classified as two texturally distinct soil horizons, a 2Cb4 and a 2Cb5, due to the lack of structure and pedogenesis.

Stratum V is a dark grayish brown (10YR4/1 to 10YR4/2) clay loam. It has a gradual upper boundary at 2.55 m below ground surface and is culturally sterile. Stratum V is classified as three texturally distinct soil horizons: 2Cb1, 2Cb2, and 2Cb3. A single humate date, taken from a cut bank profile near the Deep Creek Crossing (41HP155) profile (see Figure 6-10) in roughly the same stratigraphic position yielded an uncorrected date of  $4840 \pm 120$  B.C. (6790  $\pm 120$  B.P. [Beta 17413]; Bousman, Collins, and Perttula 1988). A distinctive gravel lens, ranging from 15 cm to 40 cm in thickness at the top of this stratum may

indicate an erosional disconformity.

Taken together, Stratum IV with two C soil horizons (clay) and Stratum V with three texturally distinct soil (silt loam) horizons form the basal unit of what appears to be a single soil, in combination with the B and A soil horizons discussed below.

Stratum VI is a dark grayish brown (10YR4/1) loam. It has a distinct boundary at 1.3 m below ground surface. A lens of charcoal tentatively identified as willow oak (*Quercus phellos*) is present on both sides of the Deep Creek Crossing road cut, but was not as evident in the 6.3 profile (see Figure 6-10). This charcoal does not appear to be cultural, but could have been part of a slack-water strand line during a flooding episode. A radiocarbon sample yielded a tree-ring corrected date of A.D. 911  $\pm$  65 (1039  $\pm$  65 B.P.; SMU-2292). Stratum VI is classified as four texturally distinct soils (loam horizons). The lowest, 2.30-2.55 m below ground surface, is a 2BCb. Above this, 1.9-2.3 m below ground surface, is a 2Bwb2. The uppermost B soil horizon, occurring 1.5-1.9 m below ground surface, is a 2Bsb1. The uppermost textural soil horizon of Stratum VI is a 2ABb.

Stratum VII is a dark gray (10YR4/1) silty clay. Stratum VIII is a grayish brown (10YR5/2) silt loam. Stratum VII and Stratum VIII are both A soil horizons and have only slightly different textural classifications. These are the uppermost soils of the soil package composed of Strata IV, V, VI, VII, and VIII. The surface of Stratum VIII, at site 41HP155, appears to be the original land surface prior to historic settlement.

Stratum IX is a grayish brown (10YR5/2) to dark gray (10YR4/1) silty clay loam. Stratum IX consists of three texturally distinct soil horizons. The lack of pedogenic development suggests that this was a recently deposited alluvial package. The upper boundary of the stratum is distinct, at 15 cm below ground surface. The lowest textural horizon is classified as a C soil which overlies the fully developed soil of the Finley Branch Fan. The lowest soil horizon, 45-82 cm below ground surface, is classified as a C-horizon, lacking structure. The middle soil horizon, an AC, is located 35-45 cm below ground surface. The uppermost soil horizon of Stratum IX, an A-horizon, is located 15-35 cm below ground surface.

Stratum X, the surface soil horizon, is a dark grayish brown (10YR4/2) silt loam. It is classified as an Ap-horizon (or modern plow zone). A red-film ceramic sherd was recovered from backhoe trench excavations within this stratum. Mr. Kenneth Cockrum, a local rancher, reported in 1989 that this stratum was a deposit from the flood that removed the bridge at Deep Creek Crossing.

#### *BHTs 10 and 1, Near Site 41HP159*

Table 6-10 presents the sediment analyses for samples from Trench 10 at site 41HP159 and from Trench 1, which is located west of the artificial channel of Finley Branch near 41HP159. Four natural strata were identified in BHT 1 and Trackhoe Trench 10 at site 41HP159 (Figure 6-11).

In general terms, Stratum I is a thick section of silty clay loam soils tentatively classified as C soil horizons. They are horizontally continuous across the entire 41HP159 site, and may be correlated to the C-horizon soils (i.e., Strata IV and V) at the Deep Creek Crossing (41HP155) site. Stratum I at 41HP159 is a silty clay loam, grayish brown (10YR5/2) to dark brown (10YR6/2), with red (5YR6/6) mottles. It has a gradual upper boundary which is 85 cm below ground surface, and was excavated to a maximum depth of 370 cm below ground surface.

Four texturally distinct soil horizons are present within Stratum I. The lowest, 220-370 cm below ground surface, is classified as a 2Cb3. This is overlain by a 2Cb2, 135-220 cm below ground surface. The third soil horizon is classified as a 2Cb1, 100-135 cm below ground surface. The fourth is a 2ACb horizon, found 85-100 cm below ground surface. A radiocarbon sample from Feature 1 (carbon in soil matrix with fire-cracked rock) in this stratum, 130 cm below ground surface, yielded a dendrocalibrated date of 3626  $\pm$  114 B.C. (SMU-2222).

Stratum II at site 41HP159 is an A soil with two texturally distinct soil horizons. The lowest is classified as a 2ACb. It is a silty clay, transitional with Stratum I. The next horizon is a 2Ab2 and is a grayish brown (10YR5/2) silty clay. It has a gradual upper boundary which ranges 60-85 cm below ground surface. The uppermost soil horizon in Stratum II is a 2Ab1. It has a gradual upper

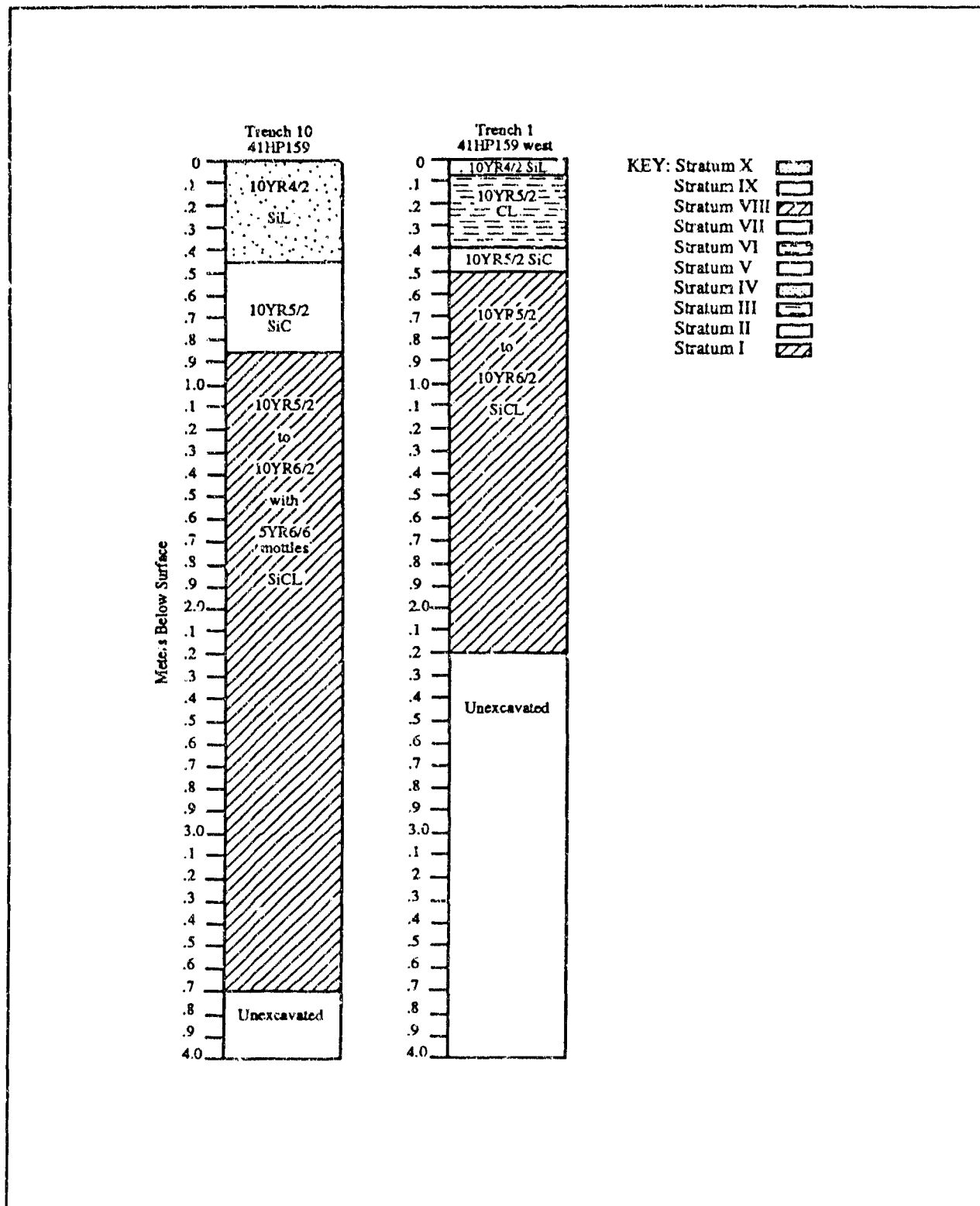


Figure 6-11. Stratigraphic profiles of BHT 1 and Trackhoe Trench 10 excavated at site 41HP159, Cooper Lake Delivery Order Number 6 study area.



boundary at 48 cm below ground surface. No cultural materials were recovered from the Feature 1 or soil profile areas of Trench 10 (41HP159), but were present in this stratum in other areas of the site.

Stratum III is horizontally continuous at site 41HP159. It is a grayish brown (10YR5/2) silt loam, with an abrupt upper boundary at 5 cm below ground surface. This stratum appears to be alluvial in origin.

Stratum IV is the surface soil horizon. It is a dark grayish brown (10YR4/2) silt loam. Fire-cracked rocks, possibly redeposited by creek flooding, were present on the ground surface within the 41HP159 site area.

## SOIL SERIES AT THE SURFACE

The Trinity-Kaufman-Gladewater series comprises the principal soils (Figure 6-12) which formed on the alluvium which has infilled the South Sulphur River Valley and its major tributaries. The Trinity clay (Figure 6-13) is the most-common soil series along stream channels on their alluvial fill, and consists of thick A-horizon soils. The Kaufman soil series also consists of deep A-horizon soils. The taxonomic classification of the Kaufman and Trinity is the Vertisol order (Lane 1977), which are soils saturated up to 1 m deep for one month or more each year, with large cracks which form during dry periods. These

TABLE 6-10

Soil Textural Percentages from Trackhoe Trench 10 and Backhoe Trench 1,  
Adjacent to Site 41HP159, Cooper Lake Delivery Order Number 6 Study Area

Soil Horizon	Depth (cm)	Sand (2.0-0.05)	Silt (0.2-0.002)	Clay (<0.002)	Texture
<i>Trackhoe Trench 10</i>					
A	0-5	14.3	62.2	23.5	SiL
C	5-48	16.2	61.9	21.9	SiL
2Ab1	48-60	9.4	47.9	42.7	SiC
2Ab2	60-85	6.3	52.3	41.4	SiC
2ACb	85-100	6.4	54.3	39.3	SiCL
2Cb1	100-135	12.3	53.6	34.1	SiCL
2Cb2	135-220	14.6	50.7	34.7	SiCL
2Cb3	220-370	10.1	55.3	34.6	SiCL
<i>Backhoe Trench 1</i>					
A	0-5	20.3	74.3	5.4	SiL
C	5-41	31.8	39.0	29.2	CL
2Ab1	41-65	9.3	48.0	42.7	SiC
2Ab2	65-120	10.8	54.2	35.0	SiCL
2ACb	120-135	13.5	49.5	37.0	SiCL
2CAb	135-148	16.6	47.0	36.4	SiCL
2Cb1	148-180	13.2	54.3	32.5	SiCL
2Cb2	180-220	18.1	49.5	32.4	SiCL

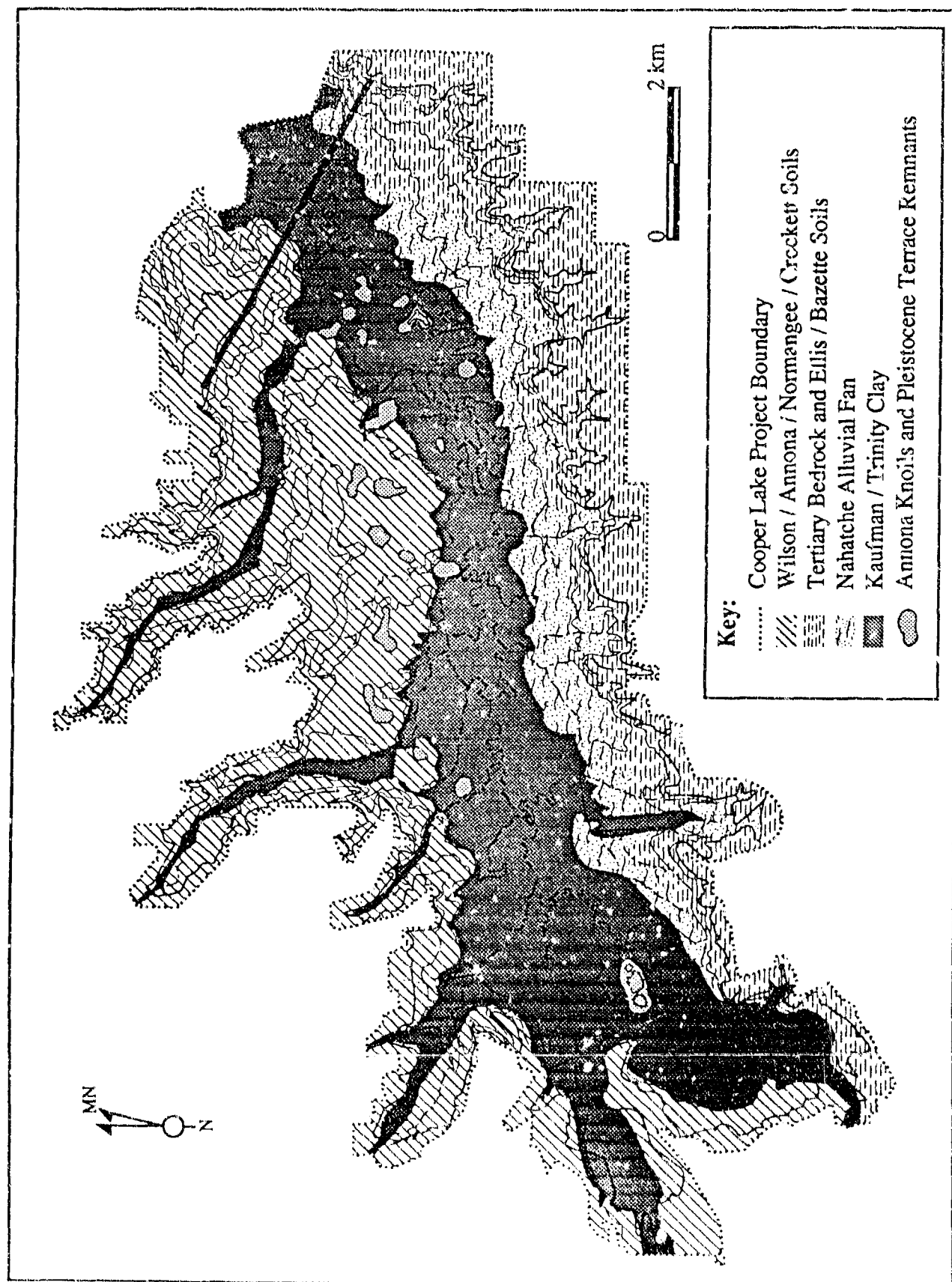


Figure 6-12. General locations of major soil associations in the Cooper Lake Delivery Order Number 6 study area.

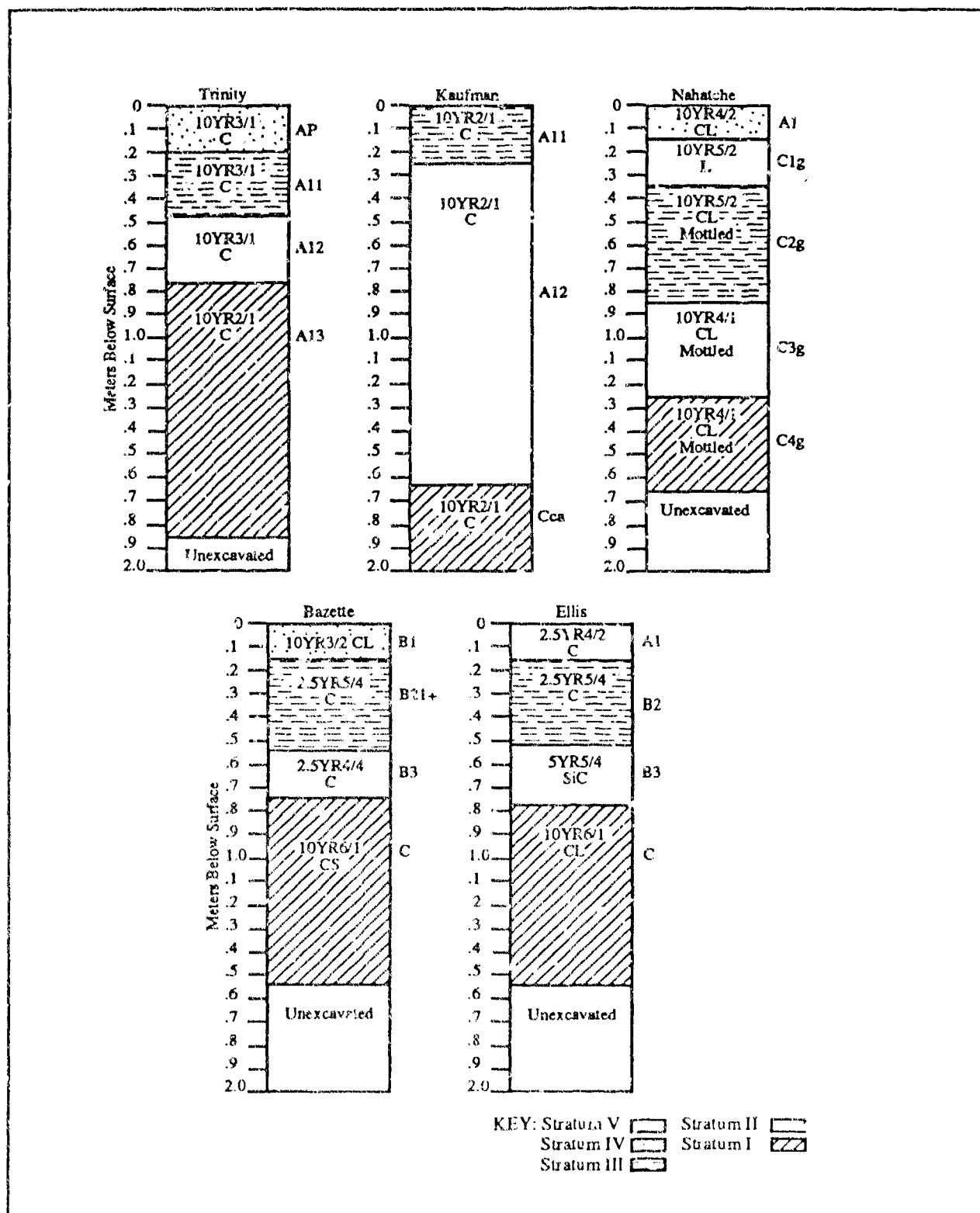


Figure 6-13. Description and horization of soil strata for major soil series mapped within the Cooper Lake Delivery Order Number 6 study area.

soils are young and formed under forest.

The Trinity series soils are only present along the South Sulphur River. The Kaufman and related Gladewater series (see Figure 6-13) are present along the lower Doctors Creek Channel. This is on the most recent alluvial unit, possibly dating later than the assay of  $910 \pm 70$  B.C. ( $2860 \pm 70$  B.P.; CMU-1983, uncorrected) obtained on charcoal from site 41HP118 (Ferring 1993:33-34) indicates.

The soils that have formed at the fringes of the floodplains and bases of slopes are more ancient and consist of the Wilson-Bazette association (see Figure 6-13), the Wilson-Normangee-Crockett association, and the Annona-Freestone-Woodtell association. Backhoe trenching to search for sites (see Figures 6-2, 6-3, and 6-4) and to interpret various physiographic features revealed the well-developed soil profiles in remnant knolls and slope upland areas. The Wilson, Normangee, and Crockett soils are the dominant soils north of the South Sulphur River floodplain. These soils are in the Alfisol order. The Wilson soil is termed an aqualf, which is a gray mottled soil, formed under a saturated moisture regime. This is an ancient soil which formed under prairie.

The Normangee soil (Figure 6-14) formed from shale parent material and has an expanding B-horizon with deep, wide cracks. It also formed under grasses.

The Crockett soil (see Figure 6-14) has a sandier epipedon which formed on the mid-Pleistocene land surface. The soil formed under a combination of forest and grassland vegetation, similar to the Post Oak Savannah noted in the original land survey. Today there are pockets of this Post Oak Savannah left which, although they have been disturbed, still reflect this previously more widespread environment.

Along the south wall of the South Sulphur River floodplain near the mouth of the Finley Branch, the typical floodplain alluvium and soil sediments give way to a prominent sedimentary unit capped by the Nahatche soil (see Figure 6-13).

The upland soils in the area south of the Sulphur River are primarily the Bazette and Ellis clays, with shallow epipedons and exposed shale and clay parent materials. There is no preservation

of archaeological sites in these soils, since they are maintained in equilibrium, except where eroded away.

## PLIOCENE-AGE GRAVELS

Within the upper reaches of small tributaries, at elevations greater than 134 m (440 ft) above msl south of the South Sulphur River (Figure 6-15), the Pliocene-age "Uvalde" gravels containing Ogallala quartzite, petrified wood, some chert, and other quartzites are being stripped from slopes as a result of colluvial processes and headward erosion of low-order drainage elements (e.g., see Chapter 8, Results, for discussions of sites 41HP91, 41HP92, 41HP93, and 41HP174).

## POTENTIAL FOR BURIED SITES

### South Sulphur Park

The side slopes are areas of net erosion; there is no evidence of long-term storage of sediments during the Holocene. Hence, there is low potential for buried archaeological sites in the upper reaches of small streams. This upland area is where most of the proposed South Sulphur park will be located. Sites are likely to be found at or near the land surface, and early sites are likely to be badly degraded by sheet wash and headward erosion of small streams, especially along the upland portions of this landform.

There is a high potential for buried sites in the valley-margin settings described above. Based on the present studies, we estimate that up to 7.0 m of alluvium has been deposited along the Finley Branch during the Holocene (e.g., at site 41HP155), providing ample opportunity for burying sites beneath it and/or on periodic non-depositional surfaces within it. It is highly probable that these surfaces would have been occupied in the past and that at least some of them would have survived the burial process with enough integrity to be deemed significant archaeological sites. Data from sites already found, however, suggest a low-density distribution. Because natural stream cuts and accidental exposure by drainage channels provide

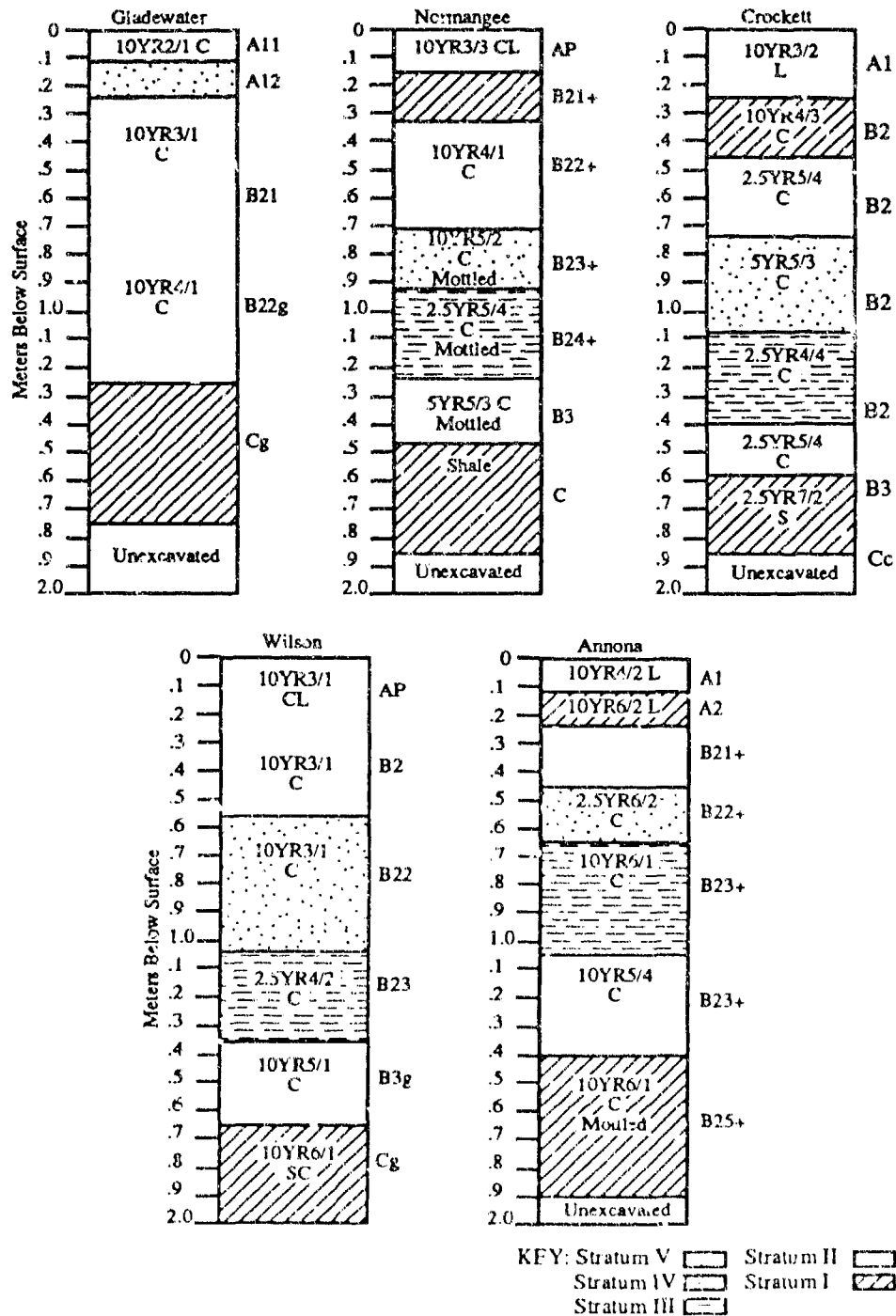


Figure 6-14. Stratigraphic profiles and horizonation for major mapped soil series within the Delivery Order Number 6 study area.

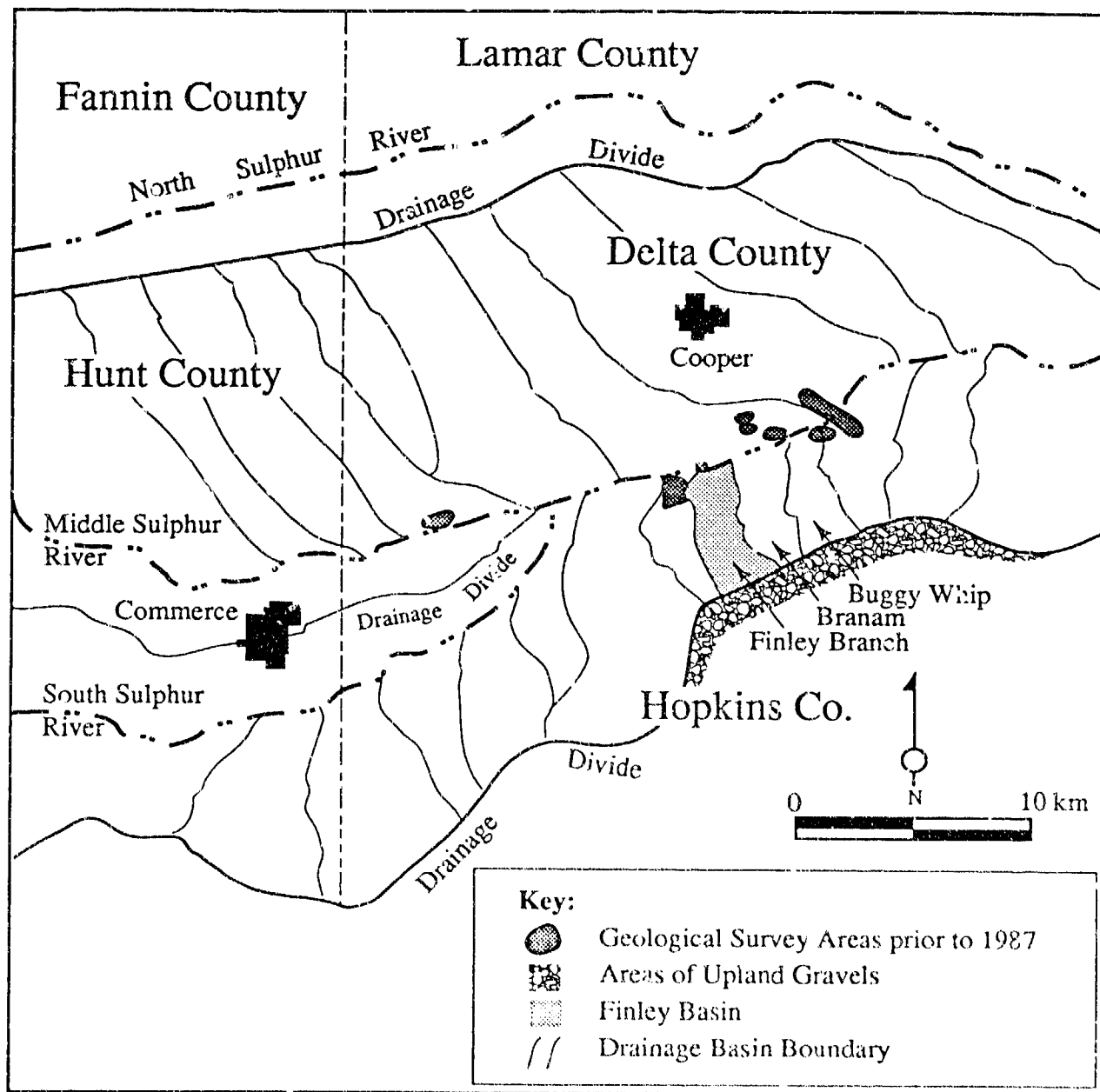


Figure 6-15. The system of drainage basins which feed into the South Salphur River.

minimal exposure at best, it is obvious that the location of archaeological sites in these settings will require trenching that is not only deep but also horizontally extensive. In other words, we are faced with the proverbial "needle in a haystack."

Excavations to the recommended depths will require shoring, cutting back banks to safe slopes (3:1), or performing large block exposures. Such methods are expensive and require heavy machinery. The potentially high expense of this

undertaking, coupled with the rather large numbers of such excavations that we think would be required to produce significant results, suggest that efforts would be best focused in areas with only the highest probability for finding sites, such as in the Finley Branch fan deposits. Because the reconstruction of past environments and studies of the chronology or cultural history of the area have been a primary focus of the Cooper Lake Research Design (Moir and Journey 1988), such extensive

geomorphological and archaeological investigations are warranted if they are sufficiently focused.

### Doctors Creek Park

The Doctors Creek floodplain and lower slope areas have high potential for buried deposits with information relating to past climatic and hydrogeologic regimes in addition to the preservation of archaeological remains. As with the South Sulphur Park, the vast amounts of sediments dating to the early Holocene produce the "needle in a haystack" potential for site discovery.

The many pimple mounds in the area of the reservoir would appear to provide abundant locations for prehistoric activity loci and camps. The backhoe trench investigations of this area were designed to investigate as many pimple mounds as possible. However, data obtained from the field indicate that less than 50% of these features actually contain prehistoric cultural materials (e.g., see Chapter 8, sites 41DT150, 41DT151, 41DT152, 41DT153, and 41DT154 for pimple mound loci that yielded positive results).

### SUMMARY

The greatest potential for buried and preserved archaeological sites within the Delivery Order Number 6 study area is within the floodplain apron (alluvial fan deposits) adjacent to streams that originate from nearby uplands (i.e., Finley Branch). Within the mapped Nahatche soil series formed on the fan deposits, sites dating from several millennia to several hundred years old (e.g., sites 41HP159 and 41HP175) have been found buried from 1.3 m to 0.8 m below ground

surface, respectively. The majority of backhoe trenches in the study area failed to yield evidence of deeply buried sites, perhaps because many did not exceed 2 m in depth due to safety considerations.

Throughout the southern Great Plains, low rates of floodplain accretion have been demonstrated on streams of all drainage orders from ca. 2000 B.P. to 1000 B.P. (Hall 1990:343). These soils are characterized by cumalic, organic rich, over-thickened A-horizons (see 41HP159). In Texas, this has been referred to as the West Fork Paleosol (Ferring 1986) and the Navarro Paleosol (Bruseth, Raab, and McGregor 1987). This soil is both buried and exposed in many localities of Texas, but has not been correlated with any of the stratigraphic units presently known in Cooper Lake.

At ca. 1000 B.P., a period of channel trenching occurred interregionally, which terminated a ca. 4,000-year period of generally uninterrupted floodplain deposition (Hall 1990:343). Based on the stratigraphic and sedimentological information derived from sites 41HP155 and 41HP159, this depositional phase has produced the nearly 7 m of alluvial fill observed in the Finley Branch Fan and along the floodplain margin south of the South Sulphur River. Although deeply buried sites are present, they are low-density deposits and appear to be scattered. It will be extremely expensive to systematically investigate all areas with potentially deeply buried sites. It is recommended that further geoarchaeological investigations be focused on the Finley Branch alluvial fan and the geomorphic setting of those sites that are recommended to be potentially eligible for the National Register of Historic Places.

# Archival Research and Informant Interviews

Jackie McElhaney

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## INTRODUCTION

A search of archival materials relating to the Cooper Lake area was conducted to find data indicating who once lived at specific properties located within the survey area as defined by this scope of work. All previous historical research (Lebo 1988; Saunders 1993; Perttula 1988a, 1988b, 1989a) was reviewed in addition to the current research. General historical overview information was also gathered for all project areas which have not been surveyed. As required under the terms of Delivery Order Number 6 (Tasks 2 and 4), these data were compiled as a set of notes and files that will be of practical use for future survey and site evaluations at Cooper Lake.

The archival search included the resources of the DeGolyer Library at SMU, the Dallas Public Library, Delta County and Hopkins County court records, the materials at the Fort Worth District Office of the Corps of Engineers (CE), and interviews with informants familiar with some of the survey areas. Population census material, tax rolls, agricultural censuses, county court minutes, probate records, local histories, cemetery histories, and land purchase agreements were also studied. The files of the Corps of Engineers document the titles of land purchased for Cooper Lake. In addition, the Corps of Engineers provided detailed tract maps of each section of the Cooper Lake

property. These were helpful in determining the survey numbers. These survey numbers proved invaluable in finding the WPA files for tracts in each courthouse, which were filed by survey number. Despite the voluminous written record, there are still problems with the identification of specific occupants of archaeological properties at precise points in time.

Census records generally indicate the presence of a given family in a given county. However, using a "census beat" analysis to locate that family is not always an effective method in rural areas. (The term "beat" refers to the actual route followed by the enumerator.) Census takers in the earlier years of enumeration (1850s-1860s) did not follow specific regulations for the order in which families should be listed. They did, however, pass from household to household along rural roads, usually following a linear sequence. This sequence could have been interrupted at the end of the day (e.g., due to sickness or other reasons).

Tax rolls indicate the payment of taxes on land tracts annually or at two-year intervals; however, these records also do not always provide an accurate account of the individuals residing on specific properties. In several cases, the original recipient of the headright never paid taxes, or, it would seem, never even set foot on his property. Instead, the property was sold or traded, or taxes



were paid on the land without the owner actually living on the tract. Some transactions were not recorded until several years after the initial purchase. The ownership of numerous parcels of land by one individual precludes the possibility that the individual actually occupied a specific site. Instead, specific tracts of land were usually farmed by others who, in some form or other, were leasing or renting the land. These other individuals were occasionally relatives, such as the Campbell family discussed below.

Agricultural censuses provided detailed information about what livestock and crops were found on an individual's farm. Other than the name of the community nearest the farm, no location is offered for the tracts of land involved. Occasionally, specific farm inventories may have survived in county archives, but the original district enumerations or routes of travel among farms were not found for Delta or Hopkins counties.

County Court minutes are an additional source of information, for they list the names of early settlers who served on county juries and who provided services for the county. These records also laid out the boundaries of early road districts which required the services of people living adjacent to thoroughfares to maintain them, thereby providing data that links individuals to properties. The problem with using this approach to derive the identities of those who lived at specific households in the area, however, is that the early road districts covered such large areas that the individual locations of the area's inhabitants cannot be determined with absolute precision. General relationships, however, may be obtained. This pattern has also been noted in the General Land Office records for the Cooper Lake area when the official county or land district surveyor uses either the grantee or local citizens as his chain carriers (i.e., A. B. Ewing or Robert Hannah; see site 41DT224 in Delivery Order Number 7 report, *Jurney et al. 1993*).

Probate records are valuable in determining what the estates of some well-to-do early settlers contained, but offer little help in identifying the precise location of the land occupied by specific families on a case-by-case basis. Likewise, local histories may offer photographs and anecdotal material about some early families. But this latter

source of information is most useful only if any descendants still live in the area and provide the material directly to the author.

The 1936 U.S. Department of Agriculture and Works Progress Administration (WPA) surveys in both Delta and Hopkins counties provided the most definitive information for the historic sites within the areas surveyed. However, the material provided only the owner's name for each tract; when tenants were farming the land, no names were recorded. The presence of structures and their construction date on each tract was not consistently noted, or if noted, was not complete or was simply an estimate. The terminology of dwellings, such as "shacks," "cottages," or "bungalows," may be an indirect reference to socioeconomic status. The composition of farms is indicated when "sheds" and "barns" are listed, occasionally with construction dates showing patterns of construction and use. The total acreage and acreages reserved for the home, garden, fields, pasture, and wasteland were listed. Also, in some cases crop yields were noted. The yield per acre for cotton (0.25 to 0.5 bale per acre) is considerably lower than that recorded for other regions within the Blackland Prairie proper (e.g., in Ellis County where 1.0 to 1.5 bales per acre were noted).

Cemetery records are also valuable in determining which settlers were in local communities or areas near rural churches. The dates of birth and death provided detailed local histories, but many cemeteries were never affiliated with churches or communities and written records of the people buried in them did not often survive. Also, several churches have burned or fallen into ruin, so that it is likely that all records have been destroyed. In addition, local populations have dispersed, and it is difficult to locate those parishioners who may know what happened to those records.

Finally, informants can be useful resources to identify previous residents of specific properties occupied within the last 50 years, but not for frontier or late nineteenth century properties. In cases where an informant can recall firsthand knowledge of people and/or events that he knew or participated in, the information can be considered valid. In cases of informants reporting hearsay evidence or anecdotal material learned from others

who themselves were not firsthand observers, information should be suspect. If there is any written record to support the hearsay evidence, it becomes more convincing. Still, without a valid means of verifying hearsay, it remains suspect as reliable information.

All informants who have provided the views transcribed in this report have signed official CE release forms. These forms guarantee the individual's right of privacy, if requested.

The problems present in the sources listed above make it difficult to ascertain with any degree of confidence the actual early occupants of a given site that has no present evidence linking it to a particular family at a specific point in time. Also, it is clearly evident that rural farming populations practiced mobile lifeways, similar to their frontier forbearers. Therefore, the composition of the historic landscape consisted of a dynamic flux of tenants, family members, and landowners. Land titles do not necessarily equate with land occupants in enough cases for them to serve as the sole tool for purposes of the present project.

## RESULTS

### General Study Area

Cooper Lake covers two counties, Hopkins and Delta, in northeast Texas. The region basically has been rural in character since the third decade of the nineteenth century and remains so to the present day. Cotton farming and livestock husbandry constitute the primary land uses. Although not formally organized until 1846, Hopkins County was undergoing settlement in the 1830s. Delta County was created from parts of Hopkins and Lamar counties and was officially established in 1870, although settlers did arrive in the area back in the late 1830s. Thus, we can confidently state that Americans and European immigrants have been in the general vicinity of Cooper Lake for at least 150 years.

Records indicate that many early settlers in present-day Delta County came from the southern states of Tennessee, Kentucky, Georgia, and Mississippi, and that many of these people were slave owners (Cooper Review Supplement 1970).

However, some initial settlers came from the Ohio Valley (e.g., Dawson, Pennsylvania) and the midwestern states of Missouri and Illinois. It is probable that early Hopkins County settlers had similar origins. Prior to the arrival of Euro-Americans, Caddo tribes occupied the area, and the Caddo Trace to East Texas crossed Hopkins County (Handbook of Texas 1988:486, 835).

### Alexander Sinclair/St. Clair Family

Members of this family have been reported to be interred in the so-called "Sinclair" Cemetery (41DT105). This cemetery was reported to the CE and has undergone both reconnaissance (Lebo 1988) and disinterment (Winchell, Rose, and Moir 1992). The disinterment was performed according to an explicit bioarchaeological and forensic research design (Moir and Jurney 1989). Sixteen individuals from the cemetery have been reinterred in the New Dawson Cemetery.

The Sinclair descendants, who were last mentioned in the 1880 census, provide the best genealogical record for this family, but were not necessarily those who were interred at 41DT105. The archival investigation revealed only brief mentions of the Alexander Sinclair family in the property taxes of Hopkins County between 1846-1856. In addition, the 1860 agricultural census for Hopkins County lists Alexander Sinclair as variously farming ca. 14-69 ha (35-170 acres) within the community of Charleston. Since early farms were dispersed, their home could have been a considerable distance from the archival center of the community or township of Charleston. No cemetery records for Hopkins County match any family names listed in the 1860, 1870, or 1880 censuses.

The only source for Delta County cemeteries lists one site, Shiloh, and it had no Sinclair/St. Clair family members. The lists of individuals from cemeteries that were disinterred, Tucker (41DT104), Dawson (41DT118), and Friendship (41DT80), also do not list any Sinclairs. The 1900 Hopkins County census revealed no Sinclair/St. Clair listings. The only listings for Sinclair in the 1894 Hopkins County Tax Rolls reveals two "St. Clairs." T. A. Sinclair is listed as the owner of a lot in Sulphur Springs, part of the original grant

given to J. A. St. Clair. The second listing describes J. W. St. Clair as the owner of three parcels of land from different grants than T. A. Sinclair. These individuals might possibly be the Travis and James listed on the 1880 census as children of Alexander Sinclair.

Based on this investigation, it is unclear what happened to Alexander Sinclair following the 1880 census. Death records were not kept in Texas until after the turn of the century, and then only sparsely, so that we do not know if he left Texas, or died and was buried in an unmarked grave. His death and that of his family were documented only in local legend. Their cemetery was abandoned, and was subsequently farmed. Today it is wooded, in second-growth forest.

### **Hopkins County Sites**

The following discussions present the results of formal interviews conducted at the respondents' homes and in the field. These interviews were conducted for the entire project area, but only some of the properties could be firmly identified as to previous occupants and owners. These identifications of occupants and owners, however, represent only specific periods and not the full sequence of occupation at each site.

#### **Site 41HP158**

*Subject of Investigation:* Site 41HP158 (a multicomponent historic and prehistoric site; see Chapter 8, this volume) and adjacent portions of South Sulphur Park, Hopkins County, Texas.

*Informant:* Kenneth Cockrum.

*Other Contacts:* Possible informants who could not be located, or for whom time and work effort were not available, include a Kerbow daughter who is married to another informant, Harlan Craig, of Ridgeway. A Massey daughter, Mrs. Virgil Owens, lives on FR 4755.

*Narrative:* This site was located on Tract 433 of the J. Lindley Survey (A-562). According to records on file with the Corps of Engineers in Fort Worth, H. E. Putman acquired numerous parcels of land at auction during the Depression. Mr. Putman had apparently purchased levee bonds very cheaply in the 1920s, and when people couldn't pay their taxes on the bonds, Mr. Putman acquired

their land. CE records indicated that Mr. Putman received \$53,535 in May 1950 for a series of bonds.

According to Kenneth Cockrum, his grandmother, Theo Staley, a widow, moved to Texas from Tennessee in 1911 and lived on Merritt Creek for a year before moving on to the site of 41HP158A in 1912. Theo had four children, one of whom was Mr. Cockrum's mother, Ruby Jim. When they arrived in Texas in 1911, the children were listed officially in the records as Tom, age 12; Opaha, age 13; Bill, age 2; and Ruby Jim, age 9 months.

The family raised cotton, corn, garden vegetables, and a small stand of sugar cane. Theo remarried in 1913 to a man named Willie Cole and they had one child, Joe Ben, who died at age three. The couple separated after that. Theo Staley moved in with her son Tom when he married, and they later moved to the Campbell place (see 41HP165, 41HP166, 41HP167) in 1925. Theo died in 1929. Her brother Bill is still alive and lives in Paris, Texas. Logistical and budgetary constraints prevented any interviews with him.

Ruby Jim, Kenneth Cockrum's mother, married Elbert Cockrum in 1926 and moved onto site 41HP158C. They had five children, all of whom are still alive and living in various portions of Texas. Elbert Cockrum managed the property which was owned by H. E. Putman who lived in Dallas.

Kenneth Cockrum reported that at least five families worked the Putman place at various times, living in cabins located near the recently burned barn. The headquarters (41HP158D) was near the present corral. The names of the families included the Pearsons, Wilkes, Masseys, and Kerbows.

Originally, the land was primarily used for cotton farming, with some corn and oats grown to feed the livestock. Cotton was planted until the mid-1950s, when they started to raise cattle on the hill and used the bottom land for grain and silage. The trench silo on the site was dug in the early 1940s and was used for storing sorghum in the form of silage. After 1954, Mr. Putman continued to raise cattle and produced row crops for silage. The government bought the property from Putman in 1976, but Kenneth Cockrum continues to lease the land for grazing his cattle.

In addition to Kenneth Cockrum's list of

occupants of the area, one other piece of information has been found on the WPA survey for the J. Lindley Survey (A-562). Tract 433 (containing site 41HP158A) appears to have been owned by a T. W. Arnold in 1936. It contained a tenant's home with three rooms, built in 1912, and a barn, built in 1914. The tract's primary crop was cotton. No further details can be determined from the WPA survey about who lived in the house on Tract 433. It is unclear whether or not the property coincides with or is adjacent to 41HP158A, but this is likely the former residence of Theo Staley.

#### Site 41HP163

*Subject of Investigation:* Site 41HP163, a newly recorded locality with historic and prehistoric components (see Chapter 8, this volume).

*Informant:* Mr. R. (Boyd) Glossup, Ridgeway, Texas.

*Other Contacts:* Mr. Glossup mentioned that he thought that "one of the two Merrit Branom's daughters," Mrs. Floyd (Opal) Peek, was alive and living in Commerce. Mrs. Lucky of Forney was interviewed by telephone and mentioned that she thought a brother of her grandmother, Jim Branom, was still alive and living in the Sulphur Springs area. Unfortunately, there was no phone number or address by which this latter person could be traced.

*Narrative:* Mr. Glossup is the cousin of a granddaughter of one of the Branom family members, Mrs. Joyce Lucky, of Forney.

This site was located on a tract in the B. Lucinger Survey (A-570). The property was sold to W. T. Branom in 1892 (Hopkins County Deed Book 24:50) by Joseph Hadfield. Apparently, Branom owned the property as late as 1936, when the WPA survey indicated that the property was occupied by a tenant and contained a house built in 1929 and a barn built in 1930. Mr. Boyd Glossup stated that he was familiar with the property as pointed out to him on a map. He recalled that several of his relatives lived on the property as tenants in the 1930s, including Sherman Glossup, Willie Glossup, and Hardin Glossup. Mr. Glossup recalled that there was a smaller house north of the main house on this property.

#### Site 41HP173

*Subject of Investigation:* Site 41HP173, a newly recorded locality with historic and prehistoric components (see Chapter 8, this volume).

*Informant:* Mrs. Rose Glossup, Ridgeway, Texas.

*Other Contacts:* Mrs. Glossup recommended contacting U. G. "Cap" Herman for additional information, since his father and A. C. Hooten had owned most of the area. Mr. Herman was not home when attempts were made to contact him by telephone. He is frequently away from home.

*Narrative:* This site is located in the Thornton Davis Survey (A-262). It was owned by A. C. Hooten from 1885-1920, as noted by sworn affidavit in the Hopkins County courthouse made by A. C. Hooten in 1920 in which he stated that he had lived on his 10.5 ha (26 acres) for the past 35 years. Hooten sold his property to J. R. Campbell in 1921, and Campbell was still the owner in 1936 when the WPA survey noted that the land was "unoccupied."

Mrs. Glossup, A. C. Hooten's daughter, born in 1899, locates her homeplace close by her present home on FR 7466 (Rt. 3), although she and her husband lived out of state from 1924-1960. This is an excellent example of the mobility of local historic populations. Her recollections prior to 1924 of what she believed was the site in question, based on looking at a map and a brief field visit, were that it was a frame box house on stumps and that there was a stock pond north of it. She recalled the people living north of the house were named Kirby, and that a Louis Campbell lived farther down the road "toward McKinney Hill," but she had no clear recollection of the site's occupants other than the fact that they were tenant farmers.

*Informant:* Mrs. Velma Shaw, 1513 Church Street, Sulphur Springs, Texas.

*Other Contacts:* Mrs. Shaw suggested contacting her half sister, Mrs. Nina Oxford, who lives north of Posey. The sister lived in Birthright, Texas, as a child, and is 10 years younger than Mrs. Shaw. Also, her half brother, Elmer Coker, lives near Commerce, Texas, and knows the place as well as she does.

*Narrative:* Mrs. Velma Shaw was the

granddaughter of Andrew Campbell and grew up in the vicinity of site 41HP173. The Andy Campbell homestead was on the same side on the road, at the right angle curve, to the south of the site. Her recollection of the site was that it was on "McKinney land" and that there was a house and barn on the site. She recalled the names of the tenants who lived there (prior to 1926-1927) as being Jeff Dixon, George McDonald, and (in 1926-1927) Bill Cundiff. Again, this points to the serial occupancy and use of historic farmsteads. She also stated that beyond the site, going toward the river east of the road, lived the Kirby, Killebrew, and Louis Campbell families. She stated that at the top of the hill, named Harper Hill after her grandmother Campbell's father, was a house (site 41HP152W) that Bill Cundiff lived in, but "he moved and the house burned."

Mrs. Shaw stated that she could show the location of every house in the area to anyone taking her out to the site. Since general mapped locations of several houses were within the Delivery Order Number 6 survey area, however, this was not necessary. It was possible to specify exactly which sites she and Mrs. Rose Glossup referred to in the Delivery Order Number 6 study area (see below). Mrs. Shaw's name was passed along to TPWD through the U.S. Corps of Engineers for future references. Properties within the Delivery Order Number 6 study area were identified, as is discussed below.

#### *Sites 41HP165, 41HP166, and 41HP167*

*Subject of Investigation:* Sites 41HP165, 41HP166, and 41HP167 (all newly recorded localities with historic and prehistoric components; see Chapter 8, this volume).

*Informant:* Mrs. Velma Shaw, 1513 Church Street, Sulphur Springs, Texas.

*Narrative:* Sites 41HP165, 41HP166, and 41HP167 are all part of the M. Brantom Survey (A-70) and were owned by John Campbell, Lizzie Coker, and Lola Couch, respectively in the 1930s. These individuals were the children of Andrew Campbell, who deeded the properties to each of them in the 1920s. Andrew had purchased the land from Serena Millhollan sometime between 1889 and 1902.

Mrs. Shaw, the granddaughter of Andrew

Campbell and daughter of Lizzie Coker, was extremely knowledgeable about sites 41HP165, 41HP166, and 41HP167, as she grew up on the property. Born in 1905, her father died in 1906 and her mother remarried in 1907. After the remarriage, she and her parents lived in the house at site 41HP166. Prior to their moving into the house, her uncle, John Campbell, had lived in it.

She reported that the house at site 41HP166 had been the original home of Andrew Campbell before he built his larger "homeplace." Site 41HP166 consisted of a house with a separate kitchen and a smokehouse behind it, and a barn and hen house across the road. The house was partially built of logs, and Andrew Campbell built an addition to the house when her mother, Lizzie, was born. She stated that the yard was swept, that the chimneys were made of brick, and that there was no second floor to the house.

She also stated that the house at 41HP165 was the one in which she was born, and that her father, Jim Day, died in the house in 1906. The house at 41HP167 was her uncle Willie Campbell's house. She reported that there were five homes on the farm, which was located east of Buggy Whip Creek. Each had a barn and a smokehouse. Only three of these homes were within the Delivery Order Number 6 survey area.

WPA records from 1936 indicate that the 45 ha (112 acres) owned by John Campbell (i.e., the tract containing 41HP165) were owner-occupied, but listed no structures on the property. The 25 ha (61.6 acre) tract owned by Lizzie Coker (i.e., the tract containing site 41HP166) is listed as having a house and a barn, both built in 1902. The 33 ha (82 acres) owned by Lola Couch (i.e., the tract containing site 41HP167) is listed as having two houses, both built in 1910.

#### *Site 41HP169*

*Subject of Investigation:* Site 41HP169, a newly recorded historic locality (see Chapter 8, this volume).

*Narrative:* Site 41HP169 is located in the George Birdwell Survey (A-67). The tract belonged to Joan Campbell who received it from his mother in the 1920s. Although the WPA records indicate that there were no houses on this tract in 1936, a "two room shack," built in 1921

and presently owned by Lizzie Coker, is listed for the adjoining tract, between J. W. Campbell and John Campbell.

### Delta County Sites

The primary informants for Delta County sites in general were local historians John Banks, Doug Albright, and Christine Ray. Of these informants, Mr. Banks provided the most data, most of which was based on conversations with older members of the community and not on documentation from written sources. He was very generous with his time and took the author to meet several informants, in addition to suggesting others. Mr. Banks also accompanied archaeologists to specific properties (a number of which he had no knowledge) in Doctors Creek Park and vicinity.

#### Site 41DT148

*Subject of Investigation:* Site 41DT148, a newly recorded historic locality (see Chapter 8, this volume).

*Informant:* John Banks; Doug Albright, Cooper, Texas.

*Narrative:* Mr. John Banks thought that the site was the "Old Arnold Jones place." The site is located on the E. R. Crowder Survey (A-72), on the E. J. Jones tract. In 1936, E. J. Jones clearly owned this site, but it is not known if Banks' reported "Arnold Jones" as a relative or a mis-recollection.

The WPA records for 1936 indicate that it was located in the B. Williams Survey (A-387), on the L. B. Clower tract. There was a three-room house, a shed, and a barn at the site in 1936, but no description of them or construction date were included. Mr. Clower was listed as living in Pecan Gap, Texas, and had a tenant on the land.

Mr. Albright, a former government employee, has conducted extensive historical research into some areas of Delta County. He had no recollection of site 41DT148 as pointed out to him on a map.

An examination of tax records in the Delta County Courthouse indicates that in the B. Williams Survey, the largest tract, which approximates the 28 ha (68.96 acres) of Tracts 225 and 226 and which was sold to the CE by Pearl

Clower, was owned by a series of individuals during that 26-year period, including: J. F. Henslee (1897-1900), D. T. Davison (1903-1905), C. A. Hardy (1915), Hardy & Jetton (1916-1917), and C. E. Anderson (1918-1923).

#### 41DT153

*Subject of Investigation:* Site 41DT153, a newly recorded locality with historic and prehistoric components (see Chapter 8, this volume).

*Informant:* Doug Albright, Cooper, Texas.

*Narrative:* Site 41DT153 is located in the J. Turner Survey (A-355), in the J. F. Henslee tract. Mr. Albright noted that it was in "Chapman pasture." During the Depression, Mr. Albright's uncle leased some of the Chapman land to run cattle. They had tenants who managed the property, but Mr. Albright could not recall any names. The WPA records for 1936 indicate that there was a two-room house on the property, but no construction date was noted. In addition, the WPA records indicate that the owner of the tract at the time, J. F. Henslee of Cooper, Texas, occupied the property, which he had purchased in 1933. Thus, the archival and informant records clearly indicate serial occupancy and use of this site.

Tax records located in the Delta County Courthouse indicate that in the J. Turner Survey (A-355), taxes were paid on varying sizes of tracts of land by T. E. Chapman, J. W. Chapman, M. M. Chapman, or C. F. Chapman from 1897-1923. However, the 1936 WPA records indicate that the Henslee tract was 19.2 ha (47.5 acres). A check of the tax records for Delta County indicate that a 19.2 ha (47.5 acre) site within this same survey had been taxed since 1913. The owners of the tract included W. T. Edwards (1913-1917) and C. C. Taylor (1918-1923).

#### Site 41DT154

*Subject of Investigation:* Site 41DT154, a newly recorded locality with historic and prehistoric components (see Chapter 8, this volume).

*Informant:* John Banks, Cooper, Texas.

*Narrative:* Site 41DT154 is located in the J.

Turner Survey (A-355) in the D.W. Huffer tract. The WPA records for 1936 indicate that there was a six-room house measuring "36 x 44 feet," a two-room shack measuring "16 x 34 feet," and a shed and barn on the property, but no dates of construction were given. D. W. Huffer had purchased the 33 ha (81 acre) tract in 1933, and it was occupied by a tenant. John Banks identified the land as having been owned by Frank Chapman beginning in the 1850s, but he knew of no structures on the tract. Mr. Chandler, a local merchant, purchased the land later. Mr. Banks took the author to the original Chapman homestead (outside of the project area) on Mr. Chandler's property and which today bears a historical marker. This homestead was not the site of 41DT154, but was located to the northwest. Mr. Banks accompanied archaeologists to 41DT154, and was surprised that brick clamps were present, since the only ones he knew of were in the City Lakes area.

None of the informants had any information about brick making on the site of 41DT154. All census indexes were examined for brick makers. Only one was listed in 1900. A page-by-page examination of the 1900 manuscript census for Delta County indicates that there was one individual, Mathas Maitland, a male 53 years of age, born in Ireland, who listed his occupation as "Farming/Brickmaking [sic]." Mr. Maitland was living in Precinct 1, Supervisor's District 1, of Delta County (the Doctors Creek Park area). The only earlier census for Delta County, taken in 1880, indicated one brick mason and no brick makers. A check of other Delta County records (probate, marriage, family histories) indicated no other trace of Mr. Maitland.

The 1900 census listed two other Delta County men as "brick masons," but no other "brickmakers" were found. Brick making was common in the area, as reported in Neville's (1985) *Backward Glances*, volume two. It was reported that Paris, Texas, had a brick making industry in the 1880s, featuring two different brickyards, and the Hopkins County census for 1860 and 1870 lists nine brick masons and one brick maker. The Sulphur Springs Commercial Club's pamphlet, *The Great Southwest-Hopkins County*, published in 1900, also notes that "Sulphur Springs has a fire brick and tile factory

located in Crush, 6 mi [9.7 km] east of Sulphur Springs on the MKT" railroad. However, it appears that smaller cottage industries, including brick making, were common in rural areas. Unfortunately, the archival and informant information on these cottage industries is scant to non-existent.

It cannot be precisely determined from the available sources whether site 41DT154 was the home of Mathas Maitland, "Farmer/Brickmaker." Tax records for Delta County (as mentioned in connection with 41DT153) confirm ownership of some of the property in A-355 by a Chapman family, but no ownership by a Maitland was found in those records.

### *Friendship Community*

*Informant:* Mamie Jones Crawford.

*Narrative:* Mrs. Crawford was born in Italy, Ellis County, Texas, and lived in the Friendship community from the time she was nine years old. She would not give her age.

Mrs. Crawford recalled the black community had been there since before 1900, and that everyone was a farmer, although most did not own their land. There were no formal stores, but there was the Friendship Church, and a school next to it which had two teachers. She recalled the names of the families who lived along the road toward town, and beyond the church. These included: Blandon, Sample English, Gary family, Ike Jones, John Henry Jones, Hancocks (?), David Dean, Jess Weaver, Will Crawford, and the Jackson, Booker, Baker, Hannibal Newsom, and John Derick families.

Mrs. Crawford recalled that John Derick, who lived near the church, had a syrup mill set up in his yard. She lived next to the school, and recalled the English and Hancock families as living nearby. Going back toward town (Klondike), across from Jesse Blandon's home lived the Newsoms, Andersons, Crawfords, and Weavers.

Contained in the 1936 WPA report are plats showing landowners in the J. P. Daniels Survey (A-100) and the W. M. Kimble Survey (A-208). Several of the names mentioned by Mrs. Crawford coincide with these plats, including Crawford, English, and Weaver.

### *Horton's Bottoms, Horton, West Delta, and Peerless*

*Informant:* Harland Craig.

*Other Contacts:* Mrs. Craig was a Kerbow family member before her marriage, and her family was one of the tenants on the Putman property. Mrs. Florena Chapman Adams, Sulphur Springs, also wrote a history of Hopkins County.

*Narrative:* Mr. Harland Craig was born outside of the community of Ridgeway, Texas, and his family has owned property in the area since "at least the 1880s." He is extremely knowledgeable about the area and the structures existing on numerous sites in the past. He drove the author around the area and pointed out different sites, most of which are outside the reservoir. This clearly illustrates the nature of informant research—specific project areas and properties have a lower probability of occupant/owner identification than broad-brush types of studies. According to Mr. Craig, Horton's Bottoms, situated across the creek from his family's property, was owned by the Jack Maloney family at the turn of the century.

There were ca. 15 families in the area, all tenant farmers. One of them was Mr. Craig's uncle, Mr. Tice, who had a syrup mill. Mr. Earl Luna of Dallas, Texas, subsequently purchased the property and operated the farm through tenants and managers in the 1970s.

The town of Horton, Texas, according to Mr. Craig, was organized ca. 100 years ago. In its heyday, it had a cotton gin, a store, and a school with 100 students and three teachers. Today, it is comprised only of widely dispersed houses and is essentially a ghost town (or "ghost site," since no commercial or community buildings remain).

Between the communities of Emblem (see below) and Horton, on the south side, was the Willow Creek community which had a one-room school but no stores. The old Craig homestead was located there. This is outside of the Cooper Lake project area, and well outside of the Delivery Order Number 6 survey.

The West Delta community was formed when the schools were consolidated in the 1940s. It was approximately twice the size of Emblem. Peerless, Texas, was once known as Fairyland. It had a post office, stores, and a blacksmith shop.

### *Emblem*

*Informant:* Harland Craig.

*Additional Source:* (Adams 1976).

*Narrative:* Mr. Craig indicated that the Emblem community covered a large area, and was known as "Soon Over" by local residents. By his reckoning, the community had three or four stores, a post office, a bank, and a cotton gin. Mr. Craig also indicated that W. T. Peak, a local merchant, owned much of the community's surrounding land in the early 1900s.

According to Adams (1976), Emblem was given its earlier familiar name because prospects for its success were doubtful. The town was settled in 1876 by G. D. Kennemore. One story concerning the origin of town's present name relates that W. T. Peek's storefront had a large sign displaying a large eagle as part of a soft drink advertisement. Apparently, the locals thought the "emblem" of the eagle made a good name for the community.

The first post office was established in 1892 and closed in 1906, when mail was rerouted to Ridgeway. The first school was started ca. 1885, a Baptist Church in 1883, and a Methodist Church in 1896. By 1948, Emblem had a church and a one-teacher school.

### *Klondike, Texas*

*Informants:* Myrna L. Smith (real estate history) and William F. Blake.

*Additional Sources:* (Patteson 1935) and *Texas Gazetteer* 1914-1915.

*Narrative:* Klondike is the only community in the western part of Delta County that is mentioned in any of the printed sources referenced to date. There are no written records for the history of Horton, West Delta, or Horton's Bottoms.

Patteson (1935) indicates that Old Pleasant Grove, located 11 km (7 mi) west of Cooper, Texas, on the Texas Midland Railway, was established as a community by the 1850s. When the railroads arrived (in 1897, according to the *Texas Gazetteer* [1914-1915]), the depot was first located at Pleasant Grove. When E. H. R. Green changed the name to Kate, the government wouldn't accept the name, and a new list was submitted, which contained Klondike, chosen



because it was the time of the Alaskan gold rush. The *Texas Gazetteer* (1914-1915) reports that the community's first hotel, named "Bills," was built in 1897 and its first lumberyard was established in 1898.

In 1935, the year Patteson's book was written, Klondike was noted as a "progressive little village" with "many nice residences, four

churches, dry goods and grocery stores, drug store, meat market, two blacksmith shops, garage and gin," and a population of 350.

The *Texas Gazetteer* (1914-1915) indicates that Klondike's population stood at 400 in 1914-1915. At that time a bank, a telegraph office, Western Union express, and W. F. & Co. telephone connection were reported for Klondike.

# Results

# 8

## INTRODUCTION

Site discussions for previously recorded and newly recorded sites within the four Delivery Order Number 6 survey areas are presented below. Environmental parameters, including native vegetation derived from the General Land Office surveys, soil type, and topographic setting; status and nature of cultural deposits; artifacts recovered; features noted; and preliminary evaluations and assessments of National Register eligibility are provided for each site. Sites were assessed following the general procedures outlined in Chapter 5, this report. Investigative strategies were modified to evaluate individual sites based on such considerations as ground cover, the presence/absence and extent of erosion, aboveground features, depth of deposits, and extent of land disturbance.

Four categories of evaluation were requested by the Fort Worth District, U.S. Army Corps of Engineers (CE) to specify the potential National Register eligibility of each archaeological site. Category I sites are definitely eligible. Category II sites need further work for proper evaluation. Category III localities are definitely not eligible. Category IV properties are non-significant and do not need further consideration. If Category IV localities present adverse circumstances, such as open wells, cisterns, or debris that present health

or safety hazards, recommendations are made for their removal.

The following site descriptions are organized according to a standard format. First, the date of initial recordation, environmental setting, and soil associations are presented. The natural and cultural stratigraphy identified in subsurface shovel test probes, backhoe trenches, or exposed soil profiles is presented for each site. Archival and informant information is presented for historic sites. The results and recommendations of previous studies, if applicable, are then summarized. In some cases, previously recorded and investigated sites (e.g., 41HP144, 41HP145, 41HP155, 41DT119, and 41DT120) have been deemed clearly not eligible for the National Register of Historic Places (NRHP), in concurrence with the Texas State Preservation Office (SHPO).

Fieldwork conducted under the terms of Delivery Order Number 6 at each site is discussed explicitly, and results of the current investigations are summarized. Finally, each site is assessed in terms of its potential to fill data gaps in settlement patterning, paleoenvironmental reconstruction, technology and subsistence, and material culture research topics outlined in the draft and final versions of the Cooper Lake Research Design (Moir and Jurney 1988). The site's preliminary National Register category is listed, along with recommendations for further work or evaluation.

## HOPKINS COUNTY SITES

### Site 41HP91

This prehistoric site was originally recorded as X41HP23 in 1970 by SMU. It is located on a ridge point overlooking the South Sulphur River Valley at 138.6 m (455 ft) above msl (Figure 8-1). The mapped soil type is Ellis clay loam with eroded 5-12% slopes. This is a highly erodible soil with little potential for buried cultural deposits. In its native state, this site was an upland oak forest, which was cut over during the Historic period and is in second-growth forest today.

#### *Stratigraphy*

Two natural strata were identified at site 41HP91. These are discussed in order from older (lower) to younger (upper).

Stratum I is the weathered marl of the Kincaid Formation. It is an olive yellow (2.5Y6/6) clay shale with layers of gray (10YR5/1) clay. It has an abrupt upper boundary at 10 cm below ground surface and is culturally sterile.

Stratum II is a pale brown (10YR6/3) loam. This is the surface soil horizon which has been organically enriched by the forest cover. It has been eroded over 70% of the defined site area, exposing Stratum I. All cultural materials were derived from this stratum. A veneer of Uvalde gravel, probably deposited prior to the Pleistocene, has been exposed throughout the site area.

#### *Archaeological Investigations*

In 1970, only flakes, fire-cracked rock, a single biface, and a single dart point (all Ogallala quartzite) were collected in a 2,133 m<sup>2</sup> area. The dart point was an untyped distal fragment. The artifact assemblage consisted of 44 items, with flakes (61%) and fire-cracked rock (21%) dominating. Four cores (9.9%) and three retouched pieces (6.8%) rounded out the assemblage. This site was interpreted as a combination chipping and hunting camp, probably dating to the Archaic period. The site was evaluated as having no research potential.

This site was revisited in 1988 during a joint assessment by the CE and Texas Parks and

Wildlife Department (TPWD). No items were noted at that time by investigators Ron Ralph (TPWD) and Daniel McGregor (CE) during their reconnaissance.

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, and shovel testing (see Figure 8-1). A permanent datum was placed on the site. Three shovel tests (25 cm x 25 cm x 25 cm) were placed at 20 m intervals across the mapped location of site 41HP91 during this survey. These shovel tests yielded no artifacts, nor were any artifacts exposed on the surface. According to the scope of work, only one person day was allotted to the relocation of this site.

#### *Recommendations*

The site will be located in the South Sulphur Park. Based on the extreme erosion and the lack of definite site boundaries, site 41HP91 is not expected to yield temporally or functionally diagnostic artifacts. Also, the 1970 surface collections may have removed the majority of items remaining on this non-aggrading landform. The site is deemed clearly not eligible (Category III) for the National Register. The erosion has reduced the site's integrity, and there is low potential to address the material culture and chronological research questions. The lack of subsistence remains and features eliminates the potential to address subsistence questions. If future information is found that warrants additional consideration, this site will be reevaluated for National Register eligibility. No further work is recommended at this time.

### Site 41HP92

This prehistoric site was recorded as X41HP24 in 1970 by SMU. The site is located on the highest point of an upland ridge overlooking Euggy Whip Creek at 154 m (506 ft) above msl (see Figure 8-1). This area was located in a post oak forest in its native state and is currently vegetated with second-growth oak, bois d'arc, and locust. The soil type is Bazette clay loam, 3-5% slopes, and the ground surface is composed of a thin regolith with a veneer of gravels, primarily Ogallala quartzite.

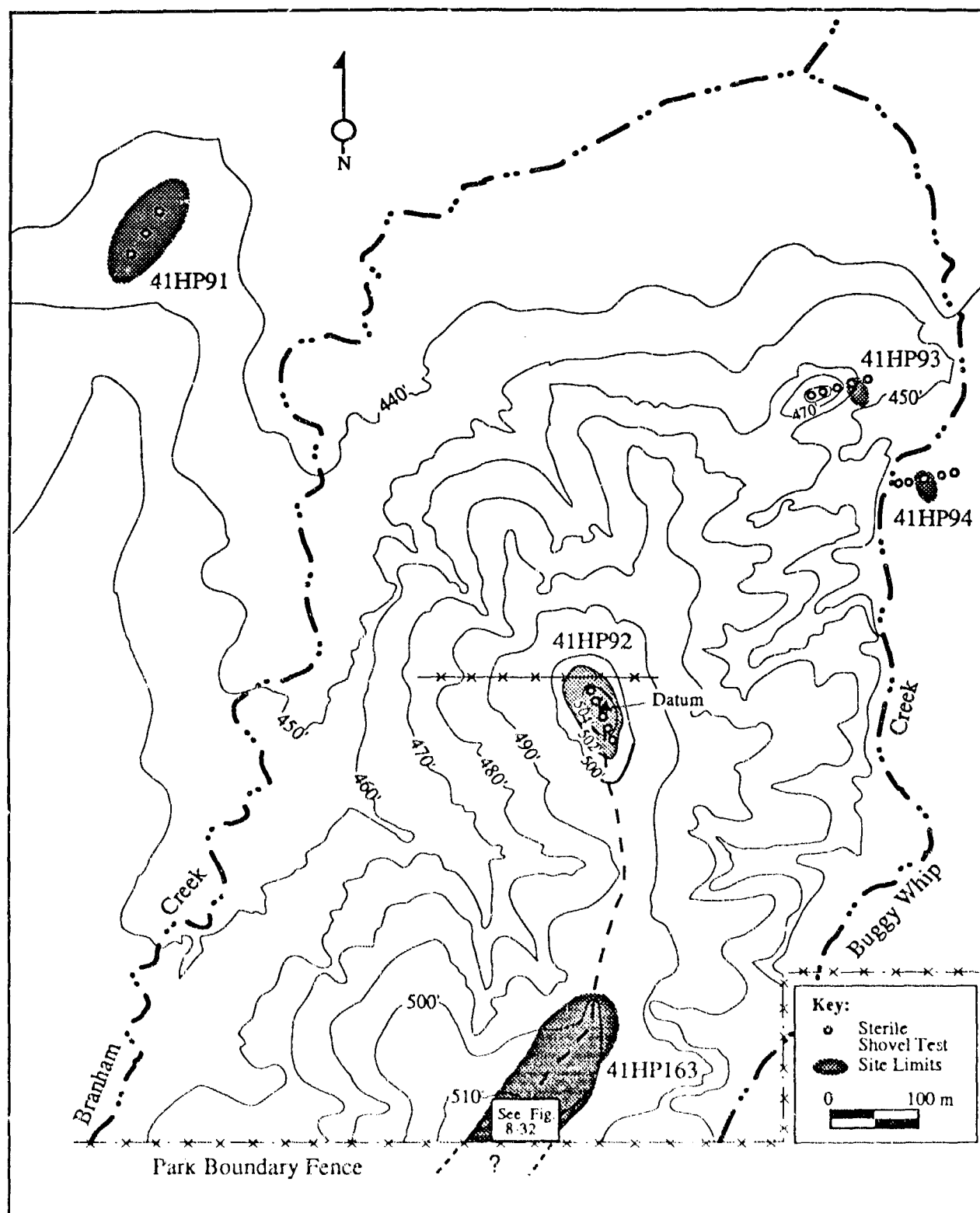


Figure 8-1. Plan of sites 41HP91, 41HP92, 41HP93, 41HP94, and 41HP163, showing the location of shovel test units and site limits.

### *Stratigraphy*

Two natural soil strata were identified at site 41HP92. These are discussed in order from older (lower) to younger (upper).

Stratum I is the weathered marl of the Kincaid Formation. It is an olive brown (2.5Y5/4) clay with yellowish brown (10YR5/4) mottles. It has a clear, smooth upper boundary at 10 cm below ground surface, and was excavated to a maximum depth of 25 cm below ground surface. It is culturally sterile.

Stratum II is the surface soil horizon. It is a pale brown (10YR6/3) loam. All cultural materials recovered in 1970 were from the surface of this stratum. It has been exposed by erosion and traffic along the field road in ca. 50% of the mapped site area.

### *Archaeological Investigations*

At the time of the site's initial recordation, only chipping debris and fire-cracked rock were noted over a 2,500 m<sup>2</sup> area, and shovel tests indicated no depth to the deposit. A single white quartzite flake was recovered; all other materials were Ogallala quartzite. A historic well depression was also noted. The artifact assemblage that was recovered in 1970 consisted of only 69 items. These were primarily flakes and chips (74%) and fire-cracked rock (16%). Five cores and retouched pieces were the only modified tools, comprising 10% of the assemblage. In 1970, the site was evaluated as having no research potential.

This site was revisited by McGregor and Ralph in 1988. No cultural materials were noted at that time.

Fieldwork conducted under the terms of Delivery Order Number 6 consisted of close interval (5 m) pedestrian survey, mapping, and the excavation of five shovel tests (25 cm x 25 cm x 25 cm) at 20 m intervals along the spine of the ridge adjacent to a field road (see Figure 8-1). A permanent datum was placed in the center of the site. None of the shovel test units yielded cultural materials, and the site area defined in 1970 (2,500 m<sup>2</sup>) is the best guideline for the distribution of the low-density chipping debris at the site. There is no depth to the soil, as it rests on gravels.

The historic component, a commercial brick

well, appears to have been constructed for the use of livestock and farming since no domestic artifacts were noted or recovered in shovel tests.

### *Recommendations*

Site 41HP92 appears to have been only lightly used throughout the past for limited acquisition of Ogallala quartzite. This site will be located within the proposed South Sulphur Park. However, the lack of any buried deposits and the low-density scatter of non-diagnostic materials reported in 1970 indicate that this site has little potential to yield information relevant to the Research Design. In fact, the 1970 surface collections may have removed the majority of items at the site. The site is deemed clearly not eligible (Category III) for the National Register. It has low potential to address chronological and material culture research questions. In addition, the lack of faunal or floral remains, as well as the low potential for feature preservation, reduce its potential to address subsistence research questions. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### **Site 41HP93**

This prehistoric site is located on the brow of a ridge point overlooking Buggy Whip Creek at 142 m (465 ft) above msl (see Figure 8-1). Site 41HP93 was initially recorded as X41HP25 in 1970 by Skinner and Hyatt of SMU. This was reported to be a small clearing exposed by grading or bulldozing. The soil type is Ellis clay, 5-12% slopes. It is a heavily gullied landform with a high erosion hazard (Lane 1977:11). In its native state, this was an upland post oak forest, which has been clear cut and bulldozed, and is in second-growth forest today.

### *Stratigraphy*

Two natural soil strata were identified at site 41HP93. These are discussed in order from older (lower) to younger (upper).

Stratum I is the weathered marl of the Kincaid Formation. It is an olive yellow (2.5Y6/6)

clay shale with layers of gray (10YR5/1) clay. It has an abrupt upper boundary at 10 cm below ground surface.

Stratum II is a pale brown (10YR6/3) loam. This is the surface soil horizon which has been organically enriched by the secondary forest cover. The original topsoil has been eroded over 80% of the defined site area, exposing Stratum I. All cultural materials noted in 1970 were recovered from this stratum.

### *Archaeological Investigations*

The artifact assemblage which was collected from the surface of the graded area in 1970 (see Figure 8-1) consisted of only 11 artifacts: seven flakes and four fire-cracked rocks. All materials were Ogallala quartzite. The site was classified as a chipping station of unknown prehistoric affiliation. At that time, it was thought to be out of the reservoir and was not considered for further evaluations.

Site 41HP93 was revisited by McGregor and Ralph in 1988. No surface materials were noted at that time.

Field investigations conducted by SMU under the terms of Delivery Order Number 6 consisted of the expenditure of one person day to relocate the site. No surface artifacts were noted, and five shovel tests (25 cm x 25 cm x 10 cm) excavated at 20 m intervals along the spine of the ridge did not yield cultural material (see Figure 8-1). The boundaries defined in 1970 have not been adjusted, and the site appears to have no subsurface deposits.

### *Recommendations*

Site 41HP93 is a low-density site, and the 11 artifacts recovered in 1970 represent the only cultural remains noted during three visits by archaeologists over a 19-year period. It appears to contain no subsurface remains and is deemed of low research value. The 1970 collections may have removed most items from the site. The site is deemed clearly not eligible (Category III) for the National Register due to its low potential to address chronological and material culture research questions. The lack of faunal and floral remains and low potential for preservation of features also

reduce the site's potential to address subsistence and settlement pattern research questions. If future information is found that warrants additional consideration, this site will be reevaluated for National Register eligibility. No further work is recommended at this time.

### *Site 41HP94*

Prehistoric site 41HP94 was recorded as site X41HP26 by Skinner and Hyatt in 1970. At that time the site was defined as a 300 m<sup>2</sup> (3,229.2 ft<sup>2</sup>) area of cultural deposits scattered across the base of a slope east of Buggy Whip Creek (see Figure 8-1). Site 41HP94 is located on a Bazette clay soil, 0-2% slopes, at 134 m (440 ft) above msl. Even at the time of its recordation in 1970, the area defined as 41HP94 was severely eroded by lateral migration of Buggy Whip Creek, which is deeply incised into shale bedrock. In its native state, this area was a slope forest consisting of mixed hardwoods, and was situated adjacent to a floodplain forest. Pecan and bois d'arc trees comprise the second-growth forest, which is present today.

### *Stratigraphy*

A single natural soil stratum was identified at site 41HP94. Stratum I is the weathered marl of the Kincaid Formation, an olive brown (2.5Y5/4) clay with yellowish brown (10YR5/4) mottles. All cultural materials noted in 1970 and 1988 were derived from the surface of this stratum. In its native state, an A soil horizon was present, but it has been removed by intensive erosion.

### *Archaeological Investigations*

A total of 38 artifacts were collected in 1970, an assemblage comprised of 44% fire-cracked rock, 47% flakes and chips, and 8% cores (n=1) and bifaces (n=2). All materials were Ogallala quartzite. This site was interpreted as a disturbed and eroded open campsite of unknown prehistoric affiliation. It was not considered worthy of further investigation.

Site 41HP94 was revisited by McGregor and Ralph in 1988. A single Ogallala quartzite flake was noted.

Fieldwork conducted by SMU under the terms of Delivery Order Number 6 consisted of the expenditure of one person day to relocate any evidence of the site. Some flakes were noted in the gravel train of Buggy Whip Creek, but none of these could be related to site 41HP94. Five shovel tests (25 cm x 25 cm x 25 cm) were excavated at 20 m intervals in a single transect perpendicular to the bank of Buggy Whip Creek, but no cultural materials were noted (see Figure 8-1).

### **Recommendations**

Site 41HP94, which will be located in the South Sulphur Park, has been totally destroyed by lateral migration of Buggy Whip Creek and sheet erosion of the surrounding landscape. The 1970 surface collections may have removed most of the cultural remains that had been deposited at the site. Since there is no definable area of prehistoric materials and the site as originally defined was a low-density scatter, it is classified as Category III. The site is deemed clearly not eligible for the National Register and has low potential to address chronological, material culture, subsistence, and settlement pattern research questions. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### **Site 41HP95**

Prehistoric site 41HP95 was initially recorded as X41HP27 in 1970. It is located at 134 m (440 ft) above msl within the floodplain of Buggy Whip Creek, adjacent to the toe of a slope (Figure 8-2). The mapped soil type is Nahatche clay loam, and the landform has been extensively eroded. A floodplain forest consisting of mixed hardwoods covered the area in its native state. The area has been cleared and is in fallow field pasture and second-growth forest today.

### **Stratigraphy**

Three natural soil strata were identified at site 41HP95. These strata are described below from oldest (lowest) to youngest (uppermost). A relatively undisturbed area of the landscape,

between eroded areas, provided this stratigraphic profile from Shovel Test 1.

Stratum I is a brown (10YR5/3) clay loam with light brownish gray (10YR6/2) mottles. It has a gradual upper boundary at 30 cm below ground surface, and was excavated to a maximum depth of 50 cm below ground surface. It is culturally sterile.

Stratum II is a yellowish brown (10YR5/6) clay loam with brown (10YR5/3) mottles. It has an indistinct upper boundary at 20 cm below ground surface. It is culturally sterile.

Stratum III is the surface soil horizon. It has been eroded over 60% of the mapped site area, exposing Strata I and II. It is a yellowish brown (10YR5/6) silt loam. All cultural materials are assumed to be derived from this stratum.

### **Archaeological Investigations**

In 1970, the site consisted of a 2,000 m<sup>2</sup> scatter of tools and flakes eroding from deeply cut gullies. The concentrations of flakes, dart point fragments, and fire-cracked rocks were interpreted as the eroded remains of hearths. At that time 103 artifacts were collected, an assemblage comprised of flakes (58%), fire-cracked rock (24%), dart point fragments (12%), and cores and bifaces (8%). Three of these dart point fragments are large varieties of the Gary type, one of which may have actually been a late-stage preform. All materials were Ogallala quartzite. The site was interpreted as an Archaic period hunting camp which had been severely disturbed. The hearths were thought to be truncated remains of *in situ* features.

The site was revisited by Daniel McGregor and Ron Ralph in 1988. No additional cultural materials were noted at that time.

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian reconnaissance and the excavation of three shovel tests (30 cm x 30 cm x 50 cm; see Figure 8-2). A single shovel test was excavated within the mapped limits of the site between two eroded areas. The remaining two shovel tests were excavated ca. 80 m and 30 m northwest and southeast of the site, respectively. All shovel test units were sterile. Shovel Test 2 indicated that 15 cm of the surface horizon had been eroded.

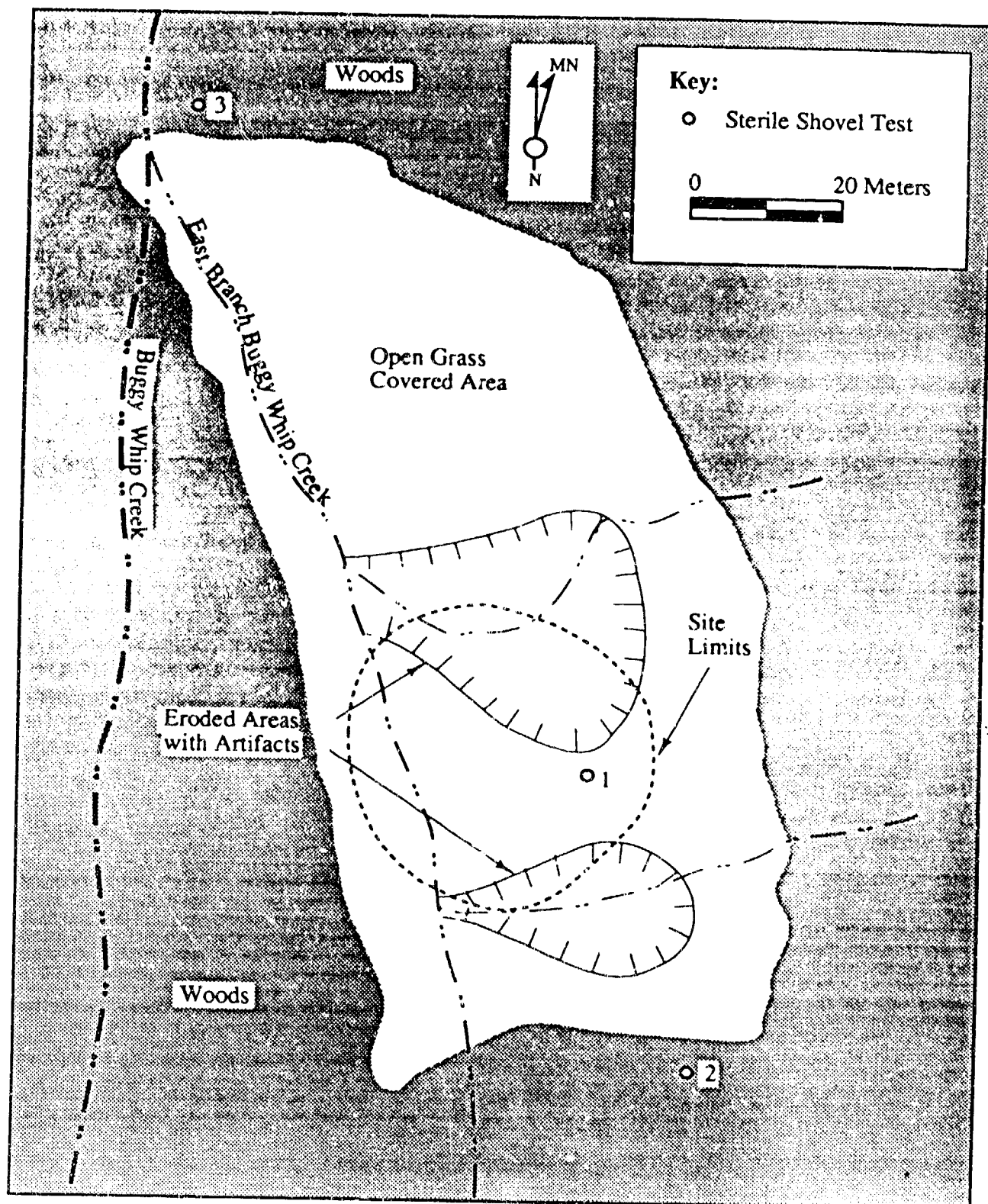


Figure 8-2. Plan of site 41HP95, showing the location of shovel tests, site boundaries, and surface artifact scatters.



The surface artifact assemblage collected from the gully walls at the site during the present investigations consisted of eight artifacts: two flakes, two cores, three fire-cracked rocks, and a single biface fragment. All were Ogallala quartzite.

### **Recommendations**

The site will be located in the South Sulphur Park. The features mentioned in the 1970 investigations as possible hearths were not relocated in either the 1988 or the 1989 surveys. Due to the low-density of temporally diagnostic artifacts and the lack of features, this site has low research value. In addition, the 1970 and 1989 surface collections may have removed the majority of cultural remains. The site is deemed clearly not eligible (Category III) for nomination to the National Register. Although the artifacts that have been recovered could yield information on material culture and chronology, there are no intact cultural deposits or features. If future information is found that warrants additional consideration, this site will be reevaluated for National Register eligibility. No further work is recommended at this time.

### **Site 41HP96**

This prehistoric site was originally recorded as X41HP28 by SMU in 1970. It is located on a small remnant floodplain adjacent to a toe slope at 134 m (440 ft) above msl (Figure 8-3). Buggy Whip Creek is actively eroding away what remains of this landform, and a road crossing indicates vehicular traffic. The mapped soil type is Nahatche loam. In its native state, this area was a floodplain forest consisting of mixed hardwoods. It has been cleared in the past and is in fallow field pasture and secondary growth forest today.

### **Stratigraphy**

Three natural soil strata were identified at site 41HP96. These were defined in the Buggy Whip Creek cut bank, where a fresh profile was shovel-shaved (see Figure 8-3). These strata are described in order from oldest (lowest) to youngest (uppermost).

Stratum I is a light gray (10YR7/2) clay loam

with very dark gray (10YR3/1) mottles. It has a gradual upper boundary at 43 cm below ground surface, and was excavated to a maximum depth of 70 cm. It is culturally sterile.

Stratum II is a light gray (10YR7/2) loam with light yellowish brown (10YR6/4) and strong brown (7.5YR5/6) mottles. It has an abrupt upper boundary at 20 cm below ground surface.

Stratum III, the surface horizon, is a dark grayish brown (10YR4/2) silt loam with light yellowish brown (10YR6/4) mottles. All cultural materials collected in 1980, 1988, and 1989 are assumed to be derived from this stratum.

### **Archaeological Investigations**

In 1970, the site was reported as an eroded 1,500 m<sup>2</sup> area on a small floodplain adjacent to Buggy Whip Creek. At that time, an assemblage of 85 artifacts was collected, all from surface contexts. Clusters of fire-cracked rock were interpreted as the eroded remains of two hearths. Flakes and chips comprised 45.8% of the collection, followed by fire-cracked rock (30.6%), unidentified point fragments and retouched pieces (12.9%), and cores and bifaces (9.4%). This site was interpreted as a Late Archaic period camp. The deposits were thought to be disturbed, except for the truncated remains of what might possibly be hearths.

McGregor and Ralph (1988) revisited this site during a brief visit to proposed park areas. Several flakes were collected from an eroded area below 134 m (440 ft) above msl, which indicated that a site was present but also suggested that erosion had disturbed the deposits.

Fieldwork conducted under the terms of Delivery Order Number 6 consisted of close interval (5 m) pedestrian survey, mapping of the eroded areas and surface features, collection of artifacts from an eroded area, and the excavation of two shovel tests (see Figure 8-3). Both shovel tests were 30 cm x 30 cm in width, with one excavated to 37 cm below surface and the other to 45 cm below surface.

The artifact assemblage collected in 1989 from the eroded area of the bank consisted of 35 artifacts. Ogallala quartzite flakes comprised 71.4% of the assemblage, followed by fire-cracked rocks (n=6; 17%) and modified flakes (n=4;

11.4%). No identifiable, complete projectile points have been collected from the site during any of the investigations performed there. Point fragments from the site suggest contracting stemmed (possibly Gary) point types.

Pottery (grog tempered) is present, but in low numbers. No faunal remains were noted or collected. The fire-cracked rock may be associated with the features reported in 1970, but no other evidence of such features was encountered.

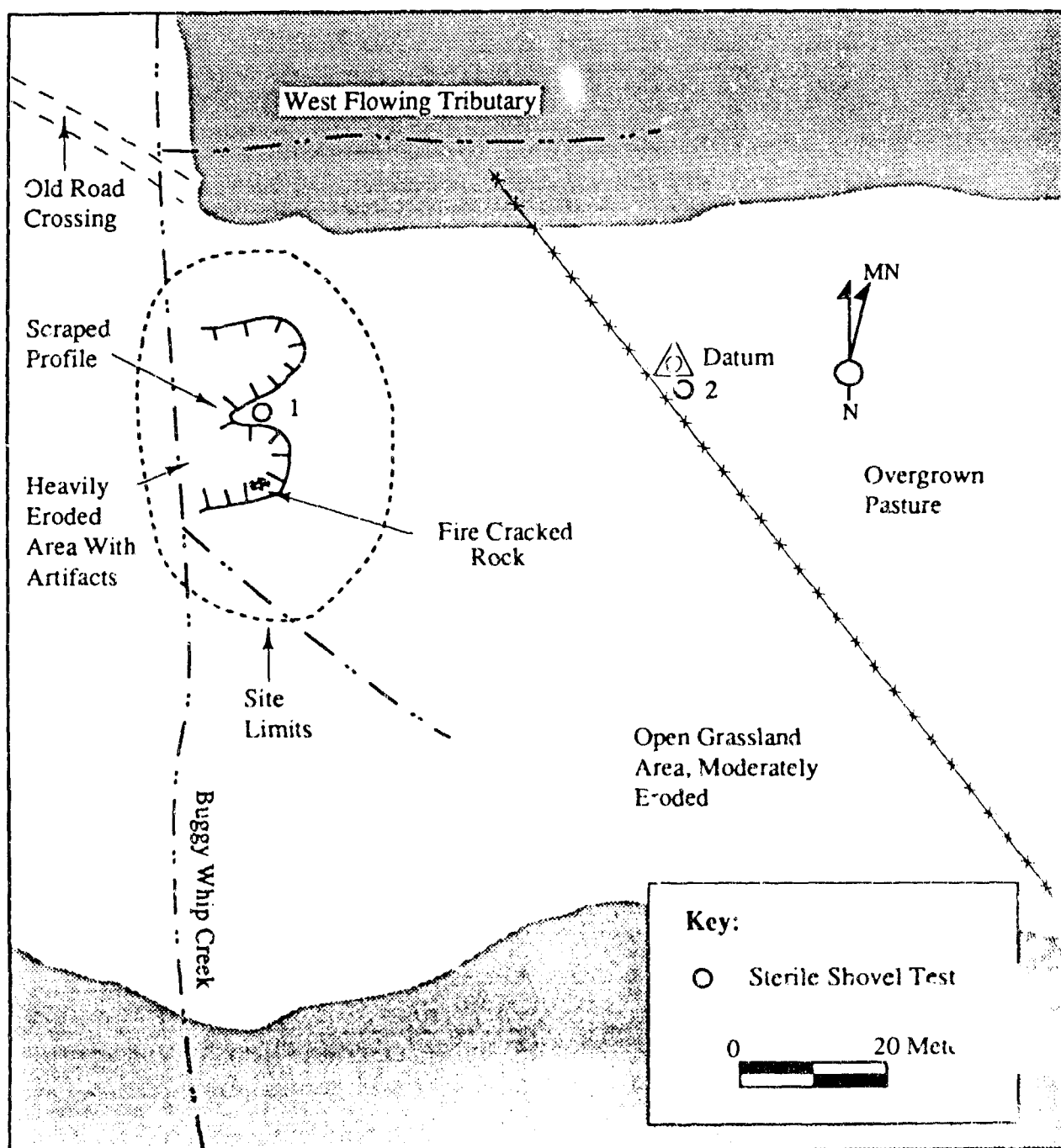


Figure 8-3. Plan of site 41HP96, showing the location of shovel tests, surface features, and site limits as defined by artifact scatters.

### *Recommendations*

Although considerable soil depth is indicated along Buggy Whip Creek at 41HP96, no artifacts were recovered from subsurface contexts. Due to this lack of temporally diagnostic materials and its questionable integrity, site 41HP96 is considered to be of low research value. The site is deemed clearly not eligible (Category III) for the National Register. Long-term erosion has apparently destroyed the hearths noted during SMU's investigation of the site in 1970. The lack of faunal remains in the site assemblage reduces the potential of 41HP96 to address the subsistence questions outlined in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for National Register eligibility. No further work is recommended at this time.

#### **The Arnold Site (41HP102)**

Prehistoric site 41HP102 was initially recorded as X41HP34 in 1970. The site is located on a low rise in the floodplain of the South Sulphur River at 126.5 m (415 ft) above msl (Figures 8-4, 8-5). The soil type is a Natatche clay loam, and the presettlement vegetation consisted of hardwood forest. The site has been cleared and intensively cultivated in the past. It is in fallow field pasture with secondary growth tree saplings today.

For the purposes of the present discussion, the more intensively occupied and extensively excavated northern portion of the site is designated 41HP102N (see Figure 8-4). The site's southern portion is designated 41HP102S; the general locations of backhoe trenches excavated in this second locus are shown in Figure 6-3, this report.

### *Stratigraphy*

Two natural strata were identified in the majority of backhoe trenches excavated at 41HP102N (see Table 6-5). Backhoe testing adjacent to the portion of the site excavated in the 1970s, however, identified four natural strata. Both stratigraphic regimes identified at 41HP102N are described below.

### *Stratigraphy: Excavation Block*

Four natural strata were identified in BHT 78 (Figure 8-6) which was excavated adjacent to the 1970s excavation block at site 41HP102. Other backhoe excavations centered around the excavation block (i.e., BHTs 84 and 87) displayed varying strata, probably due to disturbances resulting from the 1970s investigations. BHT 78 is selected for discussion, for it is most representative of the stratigraphy found within the excavation block. These strata are described below from oldest (lowest) to youngest (uppermost).

Stratum I of BHT 78 is a gray (10YR6/1) silty clay loam with yellowish red (10YR5/8) mottles. It has an indistinct upper boundary at 60 cm below ground surface and was excavated to a maximum depth of 80 cm below ground surface. It is culturally sterile.

Stratum II is identical to Stratum I (a gray silty loam), but has less distinct yellowish red (10YR5/8) mottles. It has an abrupt upper boundary at 44 cm below ground surface. It is culturally sterile, except for cultural intrusions from the overlying Stratum III.

Stratum III is a very dark gray (10YR3/1) silt loam with yellowish red (5YR5/8) mottles. It has an indistinct upper boundary at 14 cm below ground surface. This stratum roughly corresponds to the lower prehistoric cultural occupation zone at 41HP102.

Stratum IV is the surface soil horizon. It is a very dark gray (10YR3/2) silt loam, with a maximum excavated thickness of 14 cm. This stratum roughly corresponds to the upper prehistoric and historic occupation zones at 41HP102.

### *Stratigraphy: Buried Stream Channel*

Two natural soil strata were identified in BHT 85, situated west of the main site area (see Figures 8-4, 8-6). The stratigraphy identified in this unit may indicate the former location of a relict channel of Buggy Whip Creek.

Stratum I is a dark gray (10YR4/2) clay loam with very dark gray (10YR3/1) and yellowish brown (10YR5/4) mottles. It has a gradual upper boundary at 47 cm below ground surface, and was excavated to a maximum depth of 1.3 m below

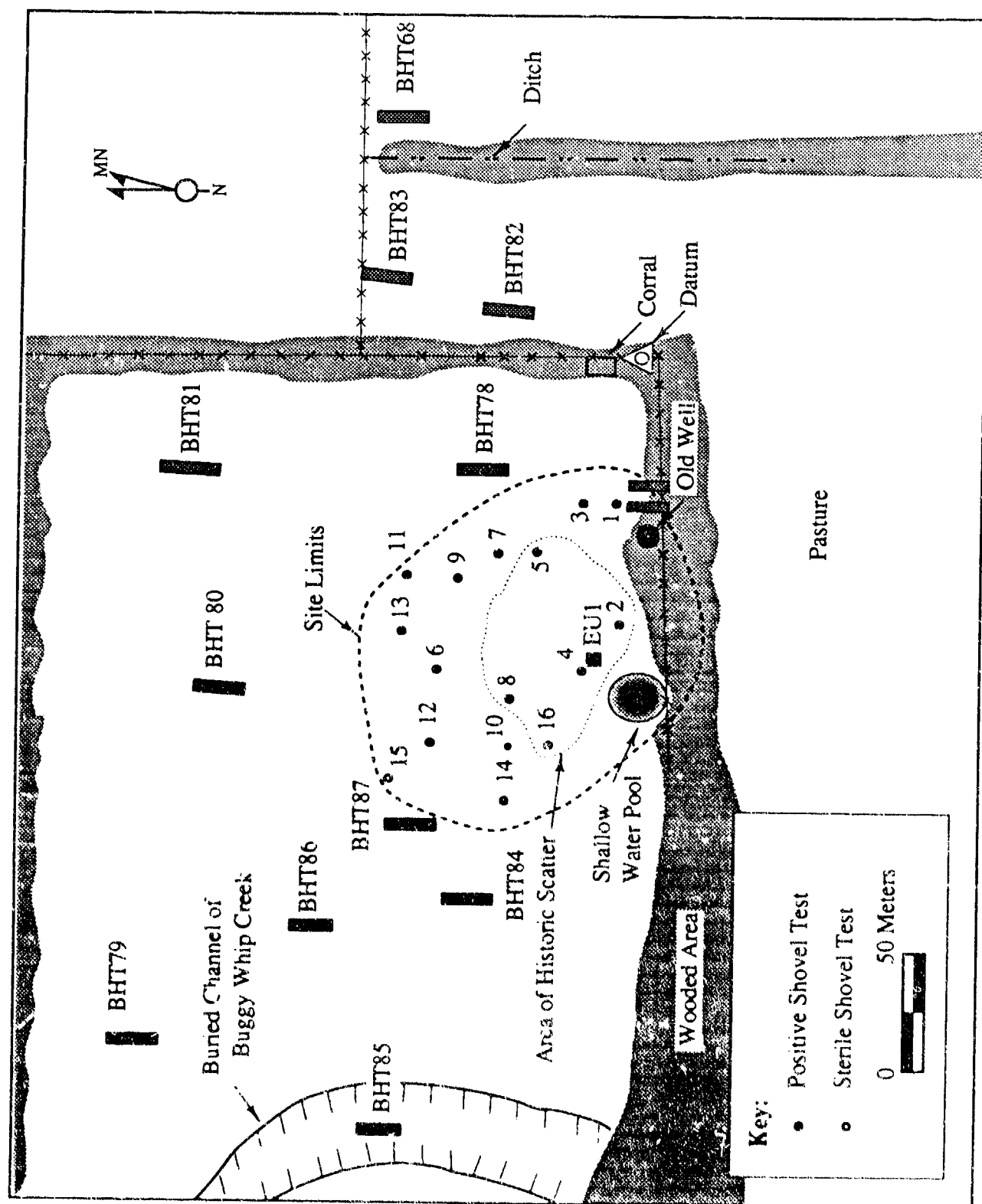


Figure 8-4. Plan of site 41HP102N, showing locations of backhoe trenches, shovel tests, and surface features. Historic items were recovered from ST 2, ST 4, ST 5, ST 8, ST 16, and EU 1.



Figure 8-5. General view of site 41HP102, showing the southern boundary of the main prehistoric component. The Historic period well is situated beyond the tree line.

ground surface. It is culturally sterile.

Stratum II is a grayish brown (10YR5/2) sandy clay loam with very dark gray (10YR3/1), dark gray (10YR4/1), and light gray (10YR7/1) mottles. This stratum, the surface soil horizon, is culturally sterile.

#### *Archaeological Investigations: 41HP102N*

In 1970, cultural materials were observed on and collected from the surface of the knoll. In all, 46 artifacts were recovered. The assemblage consisted primarily of fire-cracked rock (56.5%), flakes (17.4%), and pottery (13%). Other remains included cores and bifaces (6.5%) as well as dart points and a chert drill (6.5%). The dart points were small, contracting stemmed varieties. The debitage and dart points were of Ogallala quartzite. Further evaluations were recommended.

Intensive excavations were conducted over two field seasons in 1974 and 1975 at 41HP102 (Doehner and Larson 1978:87-142). In all, two block excavations (one encompassing 180 m<sup>2</sup> [1,938 ft<sup>2</sup>] and the other encompassing 448 m<sup>2</sup> [4,822 ft<sup>2</sup>]) were completed, along with 11

scattered 2 m x 2 m units. These units were excavated in 5 cm levels and ranged up to 60 cm in depth. Although some of the upper levels in these units were screened through 0.25 in mesh, some of the lower levels were not. Two of the 2 m x 2 m units (i.e., Units 112 and 159) were water screened through 0.125 in mesh for recovery of floral remains. Although they were not identified at that time, floral remains recovered from these units were analyzed under the Delivery Order Number 7 work order (Jurney et al. 1993: Appendix D). In addition to these units, selected levels and/or features in Units 98, 115, 127, 128, 141, 142, 143, 185, 186, and 262 were water screened through 0.125 in mesh.

A wide variety of cultural features was uncovered. These include 33 hearths, 13 human burials, three dog burials, five faunal concentrations, three mussel-shell concentrations, one pottery concentration, and four trash pits. The total artifact assemblage consisted of 181,850 items. These items included primarily artifacts (50%), vertebrate faunal remains (46%), and invertebrate faunal remains (4%). The artifact assemblage consisted primarily of fire-cracked

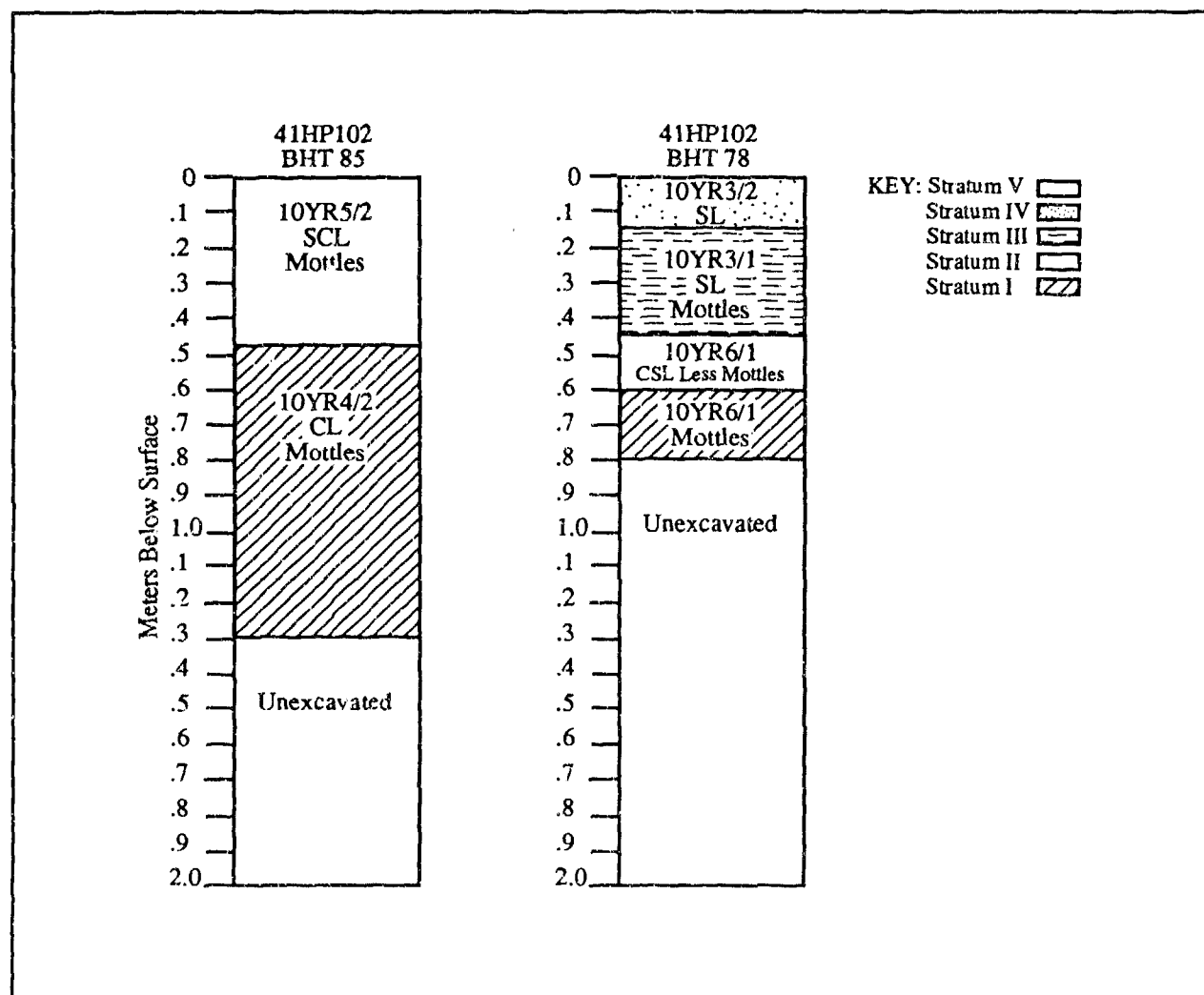


Figure 8-6. Stratigraphic profile of BHT 68 at site 41HP102N.

rock (80%) and debitage (15%). Other items included pottery (1.5%), chipped stone tools (1.5%), 283 arrow points and 118 dart points (0.4%), bone tools (0.2%), and ground stone (0.05%).

Based on a suite of radiocarbon dates (Haas 1993; Story et al. 1990:688-690), Doehner and Larson (1987:126, 138, 157) ascribed the bulk of the occupations to the Early Caddoan Period. Earlier and later components were also noted.

Fieldwork conducted at site 41HP102N under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, and shovel testing (see Figure 8-4). A series of shovel tests were excavated within and around the major block that was excavated in 1974-1975. No

artifacts were recovered in those units that fell within the block excavations. In addition, a series of backhoe test trenches were dug to the northwest, outside of the defined site limits. These backhoe trenches revealed a buried channel that may have been the previous course of Buggy Whip Creek, which formerly passed closer to the site. The peripheral excavations indicate that the majority of the Arnold site has been excavated, with only limited portions of it remaining on the edges of the densest prehistoric and historic occupations.

In addition, a handmade brick well was noted along the south of the major occupation at 41HP102 (see Figure 8-4). This well was associated with a historic farmstead that was

occupied from the late nineteenth century until the early twentieth century. The builders of this farmstead selected the same knoll landform that the prehistoric occupants had selected.

The backhoe excavations also extended to the south, revealing a light but continuous scatter of prehistoric artifacts. For convenience, the portion of the Arnold site which received previous excavations is known as 41HP102N and the light extension as 41HP102S.

A collection of 143 prehistoric artifacts was made at this portion of the site. A Colbert arrow point fragment (Figure 8-7) and three ceramic sherds (see Appendix B) were the only diagnostic prehistoric artifacts recovered. Fire-cracked rock comprised approximately half of this assemblage (51%), with broken flakes (27.2%) and whole flakes (15.4%) present in moderate amounts. The remaining artifacts consisted of unworked cobbles (4.2%), the two broken points (1.8%), and one uniface (0.4%).

Site 41HP102N also contained a historic component, represented by a total of 18 recovered artifacts. Of these artifacts, non-diagnostic glass was present in the highest frequency (38.8%). The remaining artifacts included both wire nails (16.6%) and cut nails (5.5%), wire (11.1%), and brick (11.1%), with one fragment each of plastic,

tin-can fragment, flat/sheet metal, and plain stoneware. The majority of historic remains from this component were excavated in 1974-1975. Basically, these materials represent the ca. 1880-1920 farmstead which contributed to the alteration of surficial deposits at the site.

### *Archaeological Investigations: 41HP102S*

Fieldwork at this portion of the site consisted of the excavation of five backhoe trenches (i.e., BHTs 70-74) to define the distribution of subsurface materials (see Figure 6-3). Also, a single shovel test was excavated and screened south of the area shown in Figure 8-4. An assemblage of 229 artifacts was recovered from both surface and subsurface contexts within the southern portion of the site. Fire-cracked rock (50.5%), whole flakes (27.3%), and broken flakes (17.4%) comprise the majority of the recovered artifacts. Unworked cobbles (1.8%), cores (1.4%), bifaces (0.9%), and unifaces (0.7%) were present in low frequencies.

### *Recommendations*

Based on the extensive work conducted to date at site 41HP102, its significance is well



Figure 8-7. Colbert arrow point fragment (ST 10, 0.55 cm) from site 41HP102N, Cooper Lake Delivery Order Number 6 study area.

established. The site is part of the National Register District nomination and contributes to the historic contexts and research questions presented in the Research Design (Moir and Journey 1988) and, hence, is classified as Category I. Both subsistence and cultural interaction research questions can be addressed with extant data and data potentially available from the site.

Intensive mitigation efforts conducted in the 1970s indicate that the site contains an extensive amount of information, although the primary context and condition of the site have been extensively altered. Current information indicates that this site does not now meet the criteria for eligibility to the National Register. Information obtained in the future may reveal unrecognized potentials, particularly if deeply buried deposits are discovered. Investigations to the western side of 41HP102 may be warranted, particularly if a relict stream channel is present, as is suggested by the stratigraphic profile obtained from BHT 85. If future information is found that warrants additional consideration, the site will be reevaluated for eligibility.

#### Site 41HP103

This prehistoric site was recorded by SMU in 1970 (as X41HP35) in the stream bed of a tributary of Moore Creek. It is situated at the edge of the uplands, south of the South Sulphur River at 131-134 m (430-440 ft) above msl. Uvalde veneer gravel covers the adjacent ridges and slopes in this area. The soil type is Nahatche clay loam with a 15 cm A-horizon. In its native state, this area was a post oak forest. In the past, timber was cut, and it was cultivated pasture; it is in second-growth forest today.

Site 41HP103 is located on the lower course of an unnamed tributary stream of Moore Creek, where the adjacent slope areas are extremely dissected.

The Ellis clay, with up to 12% slopes, and the Bazette clay loam, with up to 12% slopes, are adjacent to site 41HP103. The mapped soil unit of this floodplain landform is Nahatche. Sites 41HP103 and 41HP155 are located at similar elevations. Due to dense vegetation, it was not possible to perform machine investigations in this area.

#### Stratigraphy

A single soil stratum was identified at site 41HP103. This is a dark grayish brown (10YR4/2) clay loam which was excavated to a maximum depth of 15 cm below ground surface. As noted above, a Uvalde veneer deposit is exposed along the ridge slopes adjacent to the site. All cultural materials noted in 1970 are assumed to be derived from this stratum. There is a good possibility that deeper alluvial and colluvial deposits, similar to those in the Finley Branch Fan (see sites 41HP155 and 41HP159), are present downstream of this site.

#### Archaeological Investigations

In 1970, bifaces, a dart point, a preform, and a lithic scatter were reported in a 100 m<sup>2</sup> eroded area. Few flakes were present. A total of 19 artifacts were recovered, consisting primarily of fire-cracked rock (31.5%), cores and bifaces (31.5%), flakes (26%), and projectile points (10.5%). The recovered dart point fragments were both large and small contracting stem varieties, all of which are in the morphological range of the Gary point type.

This site received formal test excavations in 1976, when 13 units, each measuring 1 m x 1 m, were excavated along the adjacent ridge. These units were dug in 5 cm levels and screened through 0.25 in mesh; one unit was water screened. There were no soil characteristics present to indicate site boundaries (Doehner, Peter, and Skinner 1978:156). A total of 191 artifacts (including the 19 items from 1970) were analyzed from these excavations. Lithic debris comprised 64% of the assemblage, followed by fire-cracked rock 29%. The intensive excavations did not yield any additional projectile points or cores, and recovered only one additional biface.

A single radiocarbon assay on wood charcoal from Test Pit 3, 15-20 cm below surface, produced a dendro-calibrated date of A.D. 1796  $\pm$  77 (SMU-402; Haas 1987). This relatively late date from a context containing prehistoric artifacts suggested that the site is in fact a secondary deposit.

Interestingly, this radiocarbon assay could be related to land-clearing activities during the very



earliest years of Texas settlement. Burning of the prairies in Texas is reported to have occurred on a seasonal basis (i.e., during mid-summer and early winter) during this period (Jordan 1973:252). Ground disturbances such as extreme sheet erosion, gullyng, and even slumping of stream banks are thought to have been associated with these intentional burning episodes (Ahlgren and Ahlgren 1960:486). Without valid stratigraphic and material culture associations, however, it is impossible to support this conjectural origin of the wood charcoal from 41HP103.

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) survey to relocate the site. A maximum of one person day was expended to relocate the site. The Uvalde gravel veneer indicated the site's location. However, five (25 cm x 25 cm x 25 cm) shovel tests spaced at 20 m intervals perpendicular to Moore Creek indicated that there was essentially no soil left and that erosion had probably removed most, if not all, of the site matrix from the ridge to the floodplain. This shovel test transect was oriented upslope, to determine whether the creek bed artifacts were eroding from an intact site. This work confirmed the previous evaluation that the site was a secondary deposit.

### *Recommendations*

Site 41HP103 will be located in the South Sulphur Park. Due to the lack of definable deposits in primary contexts, the site has little research potential. Doehner, Peter, and Skinner (1978:159) noted that site 41HP103 varied from other sites which received formal test excavations in that few finished tools were recovered from the surface collections and excavations. The site was interpreted to be a temporary camp and a possible flaked stone manufacturing/refurbishing area. It was tentatively classified as an Archaic period site, but the lack of firm temporal diagnostics and the disturbed nature of the site deposits contributed to the overall assessment that the artifact assemblage did not yield reliable data representing past activities.

Based on these considerations, no further work was recommended in the 1970s. The site is deemed clearly not eligible (Category III) for the National Register, since it has low potential to

yield information important to the subsistence, chronological, and material culture research questions outlined in the Research Design. The site's topographic position and the recovery of carbonized floral remains from similarly situated sites 41HP155 and 41HP159 suggest that it should have potential to yield important information related to paleoenvironmental and geomorphological research questions.

The probability that site 41HP103 represents a secondary deposit, however, vastly diminishes its research potential. If future information is found that warrants additional consideration or indicates that additional geomorphological investigations are necessary, this site will be reevaluated for NRHP eligibility.

### *Site 41HP143*

This historic site was recorded in 1987 by SMU, and is reported to be the Ludwig Vaden site (Green 1993b). The site is located in a Crockett loam soil in what was once a broad upland prairie. Today the vegetation consists of cedar, locust, and bois d'arc trees.

### *Stratigraphy*

Two natural soil strata were identified at site 41HP143. These are discussed in relative order from older (lower) to younger (upper).

Stratum I is the upper B soil horizon. It is a dark reddish brown (5YR3/3) clay which is culturally sterile. It has an abrupt upper boundary 0-45 cm below ground surface.

Stratum II is the surface soil horizon. It is a dark grayish brown (10YR4/2) loam. The stratum has been removed over ca. 10% of the site area, where the eroded road bed is present. All cultural materials are assumed to be derived from this stratum.

### *Archival Information*

Site 41HP143 is situated in the southeast corner of the Wiley W. Langham Survey, patented to David Dowdle in 1857 and acquired by Ludwig Vaden soon thereafter. Vaden arrived in Texas in 1845 with wife Nancy E. Dowdle and two children. The tract containing 41HP143 remained

in his name until his death in 1906. A member of the Vaden family is buried on the site. Descendants of the family still live and work in the area, and one, Mr. Vaden Ritchey of Sulphur Springs, was interviewed by David Jurney in 1990.

A collapsed house (double pen with ell addition), an outbuilding, and another house site (twentieth century) were noted in 1987. A tree-ring date of 1876 was obtained from the hewn sills of the collapsed double pen, which was built using the mortise and tenon technique. This was the central core of the dwelling which was enlarged by the addition of an ell kitchen constructed with sawn pine and oak.

### *Archaeological Investigations*

Fieldwork conducted for the initial phase of formal National Register evaluations in 1987 consisted of the excavation of 23 units (30 cm x 30 cm). An additional eight 50 cm x 50 cm units were excavated in the core of the site. A surface collection of the site was performed consisting of 25 4-m<sup>2</sup> units. The artifact assemblage derived from all contexts consisted of 1,869 artifacts dating from the 1870s to 1940s. The assemblage was dominated by vessel glass (33.1%), architectural remains (27.1%), and metal items (14.5%), followed by ceramic vessels (10.2%), faunal remains (8.5%), and miscellaneous items (6.6%).

The fieldwork specified under the terms of Delivery Order Number 6 was limited to a brief examination of the site. No excavations were required since extensive data recovery had already been performed. The dendrochronological sample noted above was collected from the site, as was a second sample from a log structure on Vaden family property, ca. 1.6 km (1 mi) from the site.

### *Recommendations*

The site will be located in the South Sulphur Park. Intact features and subsurface deposits still remain, and there is good archival and informant data for the former occupants of the site.

As a result of the intensive mitigation efforts conducted in 1987, this site has yielded an extensive amount of data. Current information,

however, indicates that this site does not now meet the criteria for eligibility to the National Register. Despite a considerable wealth of archival and informant information, site 41HP143 is classified as Category III, and no further work is recommended at this time. If future information is found that warrants additional consideration, the site will be reevaluated for eligibility.

### **Site 41HP144**

This multicomponent prehistoric and historic site, recorded by SMU in 1987, consisted of a modern house, corrals, fences, and depressions covering ca. 1,012 m<sup>2</sup> (0.25 acre). Two prehistoric flakes were also noted. The site is located on an upland ridge, on a clay loam soil. This upland landform contained transitional vegetation in the presettlement period, consisting of interfingered post oak savannah and prairie.

### *Stratigraphy*

A single natural soil stratum was identified within site 41HP143, the surface soil horizon of the Crockett loam soil type. It is dark grayish brown (10YR4/2) loam which varies in depth 0-20 cm below ground surface across the site area. This stratum has been eroded by vehicular traffic in less than 10% of the site area.

### *Archival Information*

Site 41HP144, like site 41HP143, is located on the Wiley W. Langham Survey, which was patented to Ludwig Vaden from David Dowdle in 1857. Based on the archival information, site 41HP144 did not comprise part of the Vaden farmstead.

### *Archaeological Investigations*

In 1987, a close interval (5 m) survey was conducted, and a permanent site datum was placed 10 m in front of the presumed house location. Cultural materials noted include twentieth century whites, bottle and table glass, stonewares, and milk glass.

Fieldwork conducted under the terms of Delivery Order Number 6 consisted only of a

visual relocation of site 41HP143, since it had been evaluated for National Register eligibility in 1987.

### ***Recommendations***

Although the site was initially occupied in the early twentieth century, an intense occupation (1950s-1970s) has altered the earlier Historic period deposits, as well as the prehistoric component. This site will be located in the South Sulphur Park. Due to the long-term use and alteration of this site, the nineteenth and twentieth century deposits have low integrity. Also, archival research confirms the lack of significant historical data potentially available from this site. The site is deemed clearly not eligible (Category III) for the National Register. Current information indicates that this site has low potential to address the socioeconomic, subsistence, settlement, and material culture questions presented in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### **Site 41HP145**

This historic site was recorded by SMU in 1987 (Jurney, Green, and Moir 1993) and consisted of an extensive artifact scatter (3,500 m<sup>2</sup>) dating initially ca. 1900-1930. A heavier occupation dating ca. 1950s-1970s superimposes this earlier component. Site 41HP145 is located on the point of the upland promontory also containing sites 41HP143 and 41HP144. The elevation is 134 m (440 ft) above msl. The mapped soil type is Woodtell stony loam, 2-5% slopes. In its native state, this area was an upland post oak savannah adjacent to an upland prairie. An old country road leading north to Hurricane Hill is adjacent to the site in the east.

### ***Stratigraphy***

Two natural soil strata were identified within site 41HP145. These are discussed in order from older (lower) to younger (upper).

Stratum I is formed from the weathering of the Kincaid Formation. It is a yellowish red

(5YR4/6) clay which is culturally sterile.

Stratum II is the surface soil horizon, and is a yellowish brown (10YR5/4) loam which varies in depth 0-20 cm below ground surface. Surface erosion and vehicular traffic have contributed to the removal of this stratum from ca. 20% of the site area.

### ***Archival Information***

This site, like sites 41HP143 and 41HP144, is in the Wiley Langham Survey. Although Ludwig Vaden owned the land tract containing site 41HP145, archival and informant information, along with the archaeological evidence, does not indicate that this house site is related to his occupation. In all likelihood this was a serial occupation, possibly by tenants and/or relatives.

### ***Archaeological Investigations***

Fieldwork conducted in 1987 consisted of archaeological testing of the site. The excavation of a total of 19 units yielded 487 items, primarily metal artifacts. Ceramics included ca. 1891-1940 ironstones and natural clay-slipped stonewares. The intense twentieth century occupation greatly altered the composition of the assemblage, inflating the totals for metal and glass items. In 1987, a central datum was placed at this site (Jurney, Green, and Moir 1993).

Fieldwork conducted under the terms of Delivery Order Number 6 included the visual relocation of this site, but no additional surface collections or excavations were conducted. Construction activities were ongoing adjacent to this site. The present investigations reached concurrence with the previous work at 41HP144.

### ***Recommendations***

The site will be located in the South Sulphur Park. Due to the intense 1950-1970 occupation, the integrity of the initial homestead has been altered. Archival and informant investigations confirm a lack of historical significance for this property. The site is deemed clearly not eligible (Category III) for the National Register. Current information indicates that this site has low

potential to address the questions presented in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### Site 41HP155

This prehistoric site was recorded in 1987 by Bousman, Collins, and Perttula (1988). Geomorphological assessment of the site was performed at that time. The site was identified in the exposed profile of a deep cut bank on the 134 m (440 ft) above msl contour of Finley Branch (Figure 8-8). The cut revealed distinctive soil horizons. Lag gravels adjacent to the cut contained projectile points, but these did not appear to have eroded *in situ*. An idealized profile was provided by Bousman, Collins, and Perttula (1988).

### Stratigraphy

Ten natural soil strata were identified within and adjacent to the mapped limits of site 41HP155 (Figure 8-9). A 6.3 m profile was described by Dr. Rolfe Mandel, and 20 soil samples were submitted to the Texas A & M Soil Characterization Laboratory for particle-size analysis. The field descriptions and particle size results were used to classify the strata (see Chapter 6, this report). These strata are described in relative order from oldest (lowest) to youngest (uppermost).

Stratum I is a dark yellowish brown (10YR4/4) silty clay loam with reddish yellow (7.5YR7/8) to yellowish red (5YR5/6) to gray (2.5YR5/0) mottles. It has a gradual upper boundary at 5.49 m below ground surface and was excavated to a maximum depth of 6.3 m below ground surface. It is culturally sterile. There is some apparent soil development within this stratum. It has two Bgb soil horizons from 5.7-6.3 m below ground surface, overlain by an Ab soil horizon.

Stratum II is a dark grayish brown (10YR4/2) to dark gray (10YR4/1) silt loam. It has an abrupt upper boundary at 4.79 m below ground surface. It is culturally sterile and is classified as a CKb soil horizon.

Stratum III is a dark grayish brown

(10YR4/2) silty clay loam with yellowish red (5YR5/2) to gray (2.5YR5/0) mottles. It has a gradual upper boundary at 4.39 m below ground surface. A humate date (Bousman, Collins, and Perttula 1988), not from 41HP155 but from an adjacent locality at approximately the same stratigraphic position, of  $7880 \pm 170$  B.C. ( $9830 \pm 170$  B.P.; Beta 17403) was obtained for this level. Stratum III is culturally sterile, and is classified as an Akb horizon.

Strata II and III form the lower paleosol at site 41HP155 and the Deep Creek Crossing area at Finley Branch.

Stratum IV is a dark grayish brown (10YR4/1 to 10YR4/2) clay loam. It has an indistinct upper boundary at 3.64 m below ground surface. It is culturally sterile, and is classified as two texturally distinct soil horizons, a 2Cb4 and a 2Cb5, due to the lack of structure and pedogenesis.

Stratum V is a dark grayish brown (10YR4/1) silt loam. It has a gradual boundary at 2.55 m below ground surface and is culturally sterile. Stratum V is classified as three texturally distinct soil horizons: 2Cb1, 2Cb2, and 2Cb3. A single humate date, taken from a cut bank profile near the Deep Creek Crossing (41HP155) profile (see Figure 8-9) in roughly the same stratigraphic position yielded an uncorrected date of  $4840 \pm 120$  B.C. ( $6790 \pm 120$  B.P.; Beta 17413; Bousman, Collins, and Perttula 1988). A distinct gravel lens, ranging from 15-40 cm in thickness at the top of this stratum may indicate an erosional disconformity.

Taken together, Stratum IV with two C soil horizons (clay) and Stratum V with three texturally distinct soil (silt loam) horizons form the basal unit of what appears to be a single soil, in combination with the B and A soil horizons discussed below. Stratum VI is a dark grayish brown (10YR4/1) loam. It has a distinct boundary at 1.3 m below ground surface. A lens of charcoal, tentatively identified as willow oak (*Quercus phellos*), is present on both sides of the Deep Creek Crossing road cut, but was not as evident in the 6.3 m profile (see Figure 8-9). This charcoal does not appear to be cultural, but could have been part of a slack-water strand line during a flooding episode. A radiocarbon sample yielded a tree-ring corrected date of A.D.  $911 \pm 65$  ( $1039 \pm 65$  B.P.; SMU-2292).

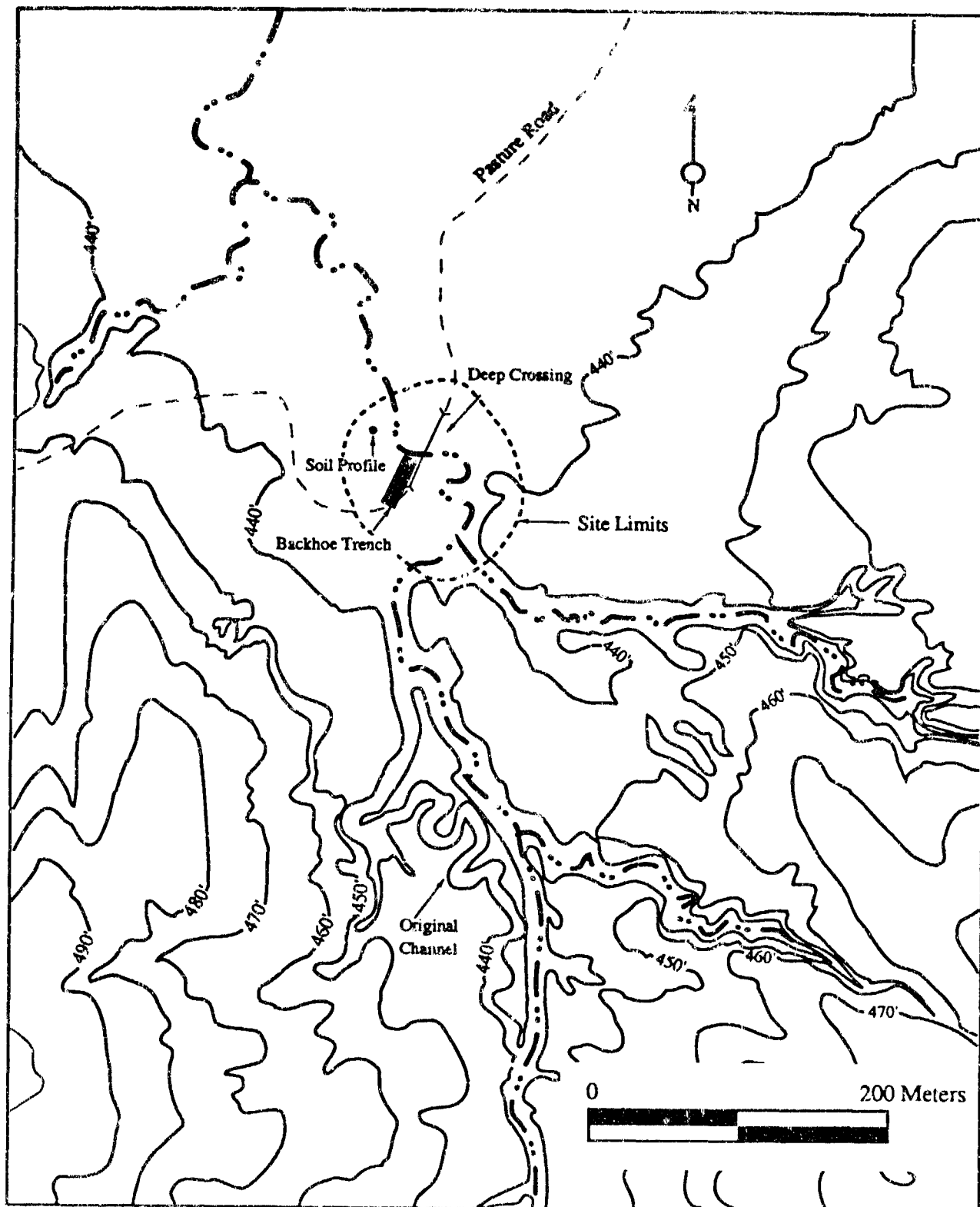


Figure 8-8. Plan of site 41HP155, showing the location of excavations, estimated site limits, and the site's position on the Finley Branch.

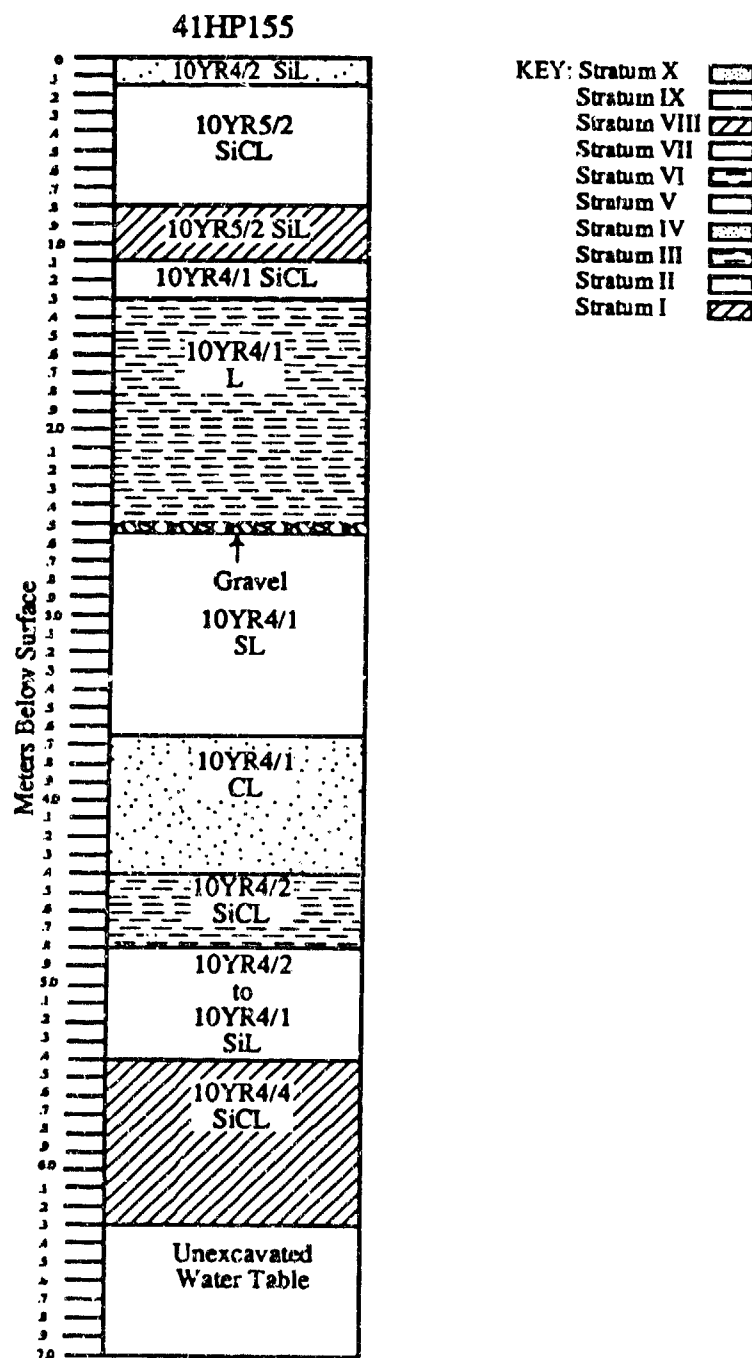


Figure 8-9. Stratigraphic profile of deep excavation at site 41HP155 (see Figure 8-8 for location of profile).

Stratum VI is classified as four texturally distinct soil (loam) horizons. The lowest, 2.30-2.55 m below ground surface, is a 2BCb. Above this, 1.9-2.3 m below ground surface, is a 2Bwb2. The uppermost B soil horizon, 1.5-1.9 m below ground surface, is a 2Bsb1. The uppermost textual soil horizon of Stratum VI is a 2ABb.

Strata VII and VIII are both A soil horizons and have only slightly different textural classifications. These are the uppermost soils of the soil-stratigraphic unit composed of Strata IV, V, VI, VII, and VIII. Stratum VII is a dark grayish brown (10YR4/1) silty clay. Stratum VIII is a grayish brown (10YR5/2) silt loam. The surface of Stratum VIII at site 41HP155 appears to have been the original land surface prior to historic settlement.

Stratum IX consists of three texturally distinct soil strata. The lack of pedogenic development suggests that this was a recently deposited alluvial package. The upper boundary of the stratum is distinct, at 15 cm below ground surface. The lowest textural horizon is classified as a C soil horizon which buried the fully developed soil of the Finley Branch Fan. Stratum IX is a grayish brown (10YR5/2) to dark grayish brown (10YR4/1) silty clay loam. The lowest soil horizon, 45-82 cm below ground surface, is classified as a C-horizon, lacking structure. The middle soil horizon, an AC, is located 35-45 cm below ground surface. The uppermost soil horizon of Stratum IX is classified as an A-horizon and is located 15-35 cm below ground surface.

Stratum X, the surface soil horizon, is a dark grayish brown (10YR4/2) silt loam. It is classified as an AP-horizon, the modern plow zone. A red-filmed ceramic sherd was recovered from backhoe trench excavations within this stratum. Informant Kenneth Cockrum reported that this stratum was a floodplain deposit following the flood that removed the bridge at Deep Creek Crossing.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included revisiting this site, excavation of a 300 m<sup>2</sup> block in the northern wall of the deep crossing (see Figure 8-8), collection of wood charcoal and dating of a

buried lens, and soil sampling of a 6.3 m profile adjacent to the site. Most of the cultural materials from the site have been recovered from stream gravel.

Fire-cracked rock comprised 84.1% of the recovered artifacts under Delivery Order Number 6. Among the lithic artifacts recovered, three diagnostic Gary points and two untyped dart points comprise 4.6% of the assemblage (Figure 8-10). Bifaces (5.0%), whole flakes (3.1%), unifaces (1.5%), and one unworked cobble (1.5%) make up the remaining stone artifacts (Figure 8-11). The limited work at the site performed by Bousman, Collins, and Perttula (1988) was not directed toward the evaluation of the archaeology. Therefore, the limits and context of the archaeological deposits were not determined.

Based on our resurvey and excavations, it has been determined that the artifacts recovered from the stream gravels have been washed out from sites upstream. Close examination of the cut banks indicate that *in situ* cultural deposits are not currently exposed.

The redeposited fire-cracked rock and flakes noted in the cut bank are contained in sediments derived from high-velocity streams. This stratum was examined by geomorphologist Rolfe Mandel, Ph.D., who interpreted it as a secondary deposit. The radiocarbon date was collected from a distinct layer of wood charcoal which was exposed in the 300 m<sup>2</sup> excavation block. This sample, derived from 2.0 m below the original ground surface and 60 cm above the gravel lens, produced a date of A.D. 961  $\pm$  65 (SMU- 2292). This date intimates more rapid alluviation than that suggested by the humate dates (Bousman, Collins, and Perttula 1988) in the vicinity of our excavations.

### *Recommendations*

Based on the available information, it cannot be determined whether intact archaeological deposits remain at the site. Natural sediments, including carbonized floral remains, are present, and thus this site could aid in paleoenvironmental reconstruction and chronometric dating. However, due to the lack of a clear cultural context, the site is classified as Category III. No further investigations are recommended.



Figure 8-10. Projectile points from site 41HP155, Cooper Lake Delivery Order Number 6 study area. Left-right: three Gary dart point fragments (Finley Branch gravel deposit), one untyped dart point fragment (Finley Branch gravel deposit).



Figure 8-11. Bifaces from site 41HP155, Delivery Order Number 6 study area. Top row (left-right): biface fragment (surface), biface fragment (Finley Branch gravel deposit). Bottom row: biface (surface).



### Site 41HP158

Site 41HP158 (Figures 8-12, 8-13) is an extensive, multicomponent historic and prehistoric site which was located within the proposed water intake facility for the North Texas Municipal Water District. This site was initially recorded by McGregor and Roemer in 1988. The highest priority for National Register evaluations was given to this site at the start of the Delivery Order Number 6 investigations.

This locality is situated in an upland promontory at elevations ranging from 130 m (428 ft) above msl at the base of the ridge to 137 m (450 ft) above msl at the top. In its native state, this area contained an upland forest with oaks, a slope forest with mixed hardwoods, and a floodplain forest with mixed hardwood. It has been cleared, intensively cultivated, and the landscape modified; it is in fallow field pasture today.

This upland site is located on a clay loam soil with Uvalde gravels forming a mantle along its eastern portion. Prehistoric peoples ranging from the Archaic to the Late Ceramic periods used these gravels to manufacture tools. However, no intact prehistoric deposits were encountered in this portion of the site (see below).

As noted above, site 41HP158 was recorded and initially evaluated by Erwin Roemer and Daniel McGregor in 1988. A letter report (McGregor and Roemer 1989) discussing the archival information is on file with the Fort Worth Corps of Engineers. This report also includes a packet of photographs showing one of the historic houses (41HP158C) that comprises the site.

Based on the letter report of McGregor and Roemer (1989) and our initial reconnaissance of the site, it was divided into five components: Area A, a ca. 1912-1920s dwelling; Area B, the 1956 H. E. Putnam farm complex (barns, well, and silo); Area C, a tenant dwelling (see McGregor and Roemer 1989 for photograph); Area D, a ca. 1926-1950s dwelling; and Area E, the eroded veneer of gravels which was used as a quarry site for millennia.

The historic components at the site contained intact deposits and consisted of the above-mentioned three dwellings, two barns, and a large earth silo. One dwelling (41HP158A) was built ca. 1912 and was occupied by Theo Staley, an

immigrant from Tennessee and the grandmother of Mr. Kenneth Cockrum. Mr. Cockrum still leases the property today. The second oldest house site (41HP158D) was occupied by Mr. Cockrum's parents (Elbert and Ruby Jim Cockrum) from 1926 until the 1950s. The most recent house site (41HP158C) is a post-1950 tenant house which was used when the site was operated as a feeder cattle facility in the 1950s. This agricultural activity greatly altered the archaeological integrity of the entire site.

The stratigraphy, archival information, and material culture assemblages from each component are discussed below by site area.

### Site 41HP158A

This component (Figure 8-14; see Figure 8-13) consisted of the remains of a dwelling which included piers and debris. A well casing, a well, and a cellar were also present on the uppermost portion of the ridge at 146.3 m (480 ft) above msl. A field road bordered the area on the east, exposing numerous artifacts.

### Stratigraphy

The upper portions of site 41HP158A are situated on Bazette clay loam, 5-12% slopes, and the portions along the brow of the ridge are mapped as Ellis clay with 12% slopes. The A soil horizon has been removed. Three natural soil strata were identified, and these are discussed in order from oldest (lowest) to youngest (uppermost).

Stratum I is the weathered clay shale of the Kincaid Formation. It consists of layers of gray (10YR5/1) and olive yellow (2.5Y6/6) shale with evident bedding planes. It has an abrupt upper boundary at 50 cm below ground surface, and was excavated to a maximum depth of 3.0 m below ground surface in the backhoe trench through the well at 41HP158A. It is culturally sterile.

Stratum II is an olive (5Y5/4) silty clay with brownish yellow (10YR6/6) mottles. It has a gradual upper boundary at 20 cm below ground surface. Although some brick and heavy metal items were recovered from this stratum, it is essentially culturally sterile.

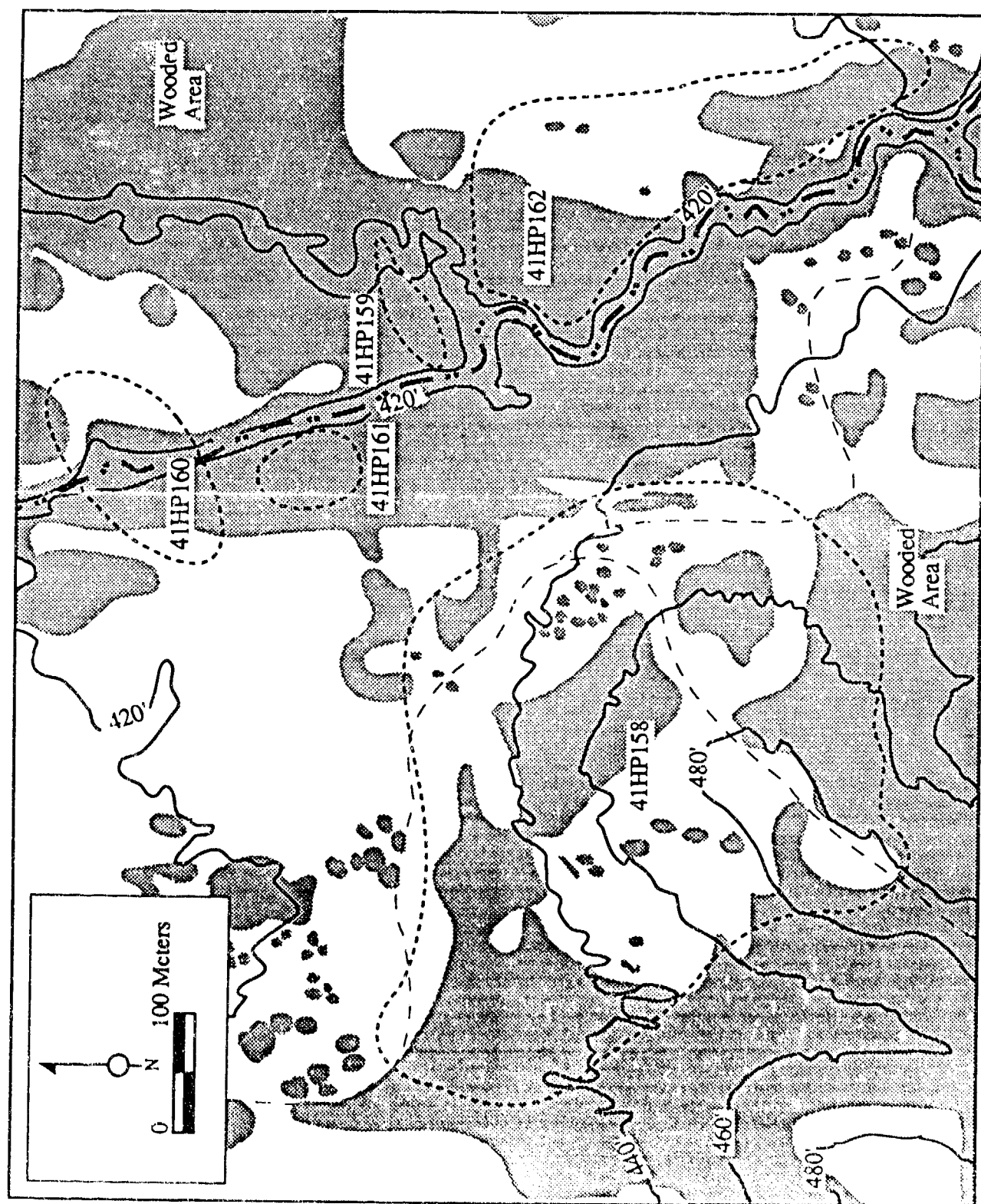


Figure 8-12. Plan of sites 41HP158, 41HP159, 41HP161, and 41HP162, showing their locations on the Finley Branch.

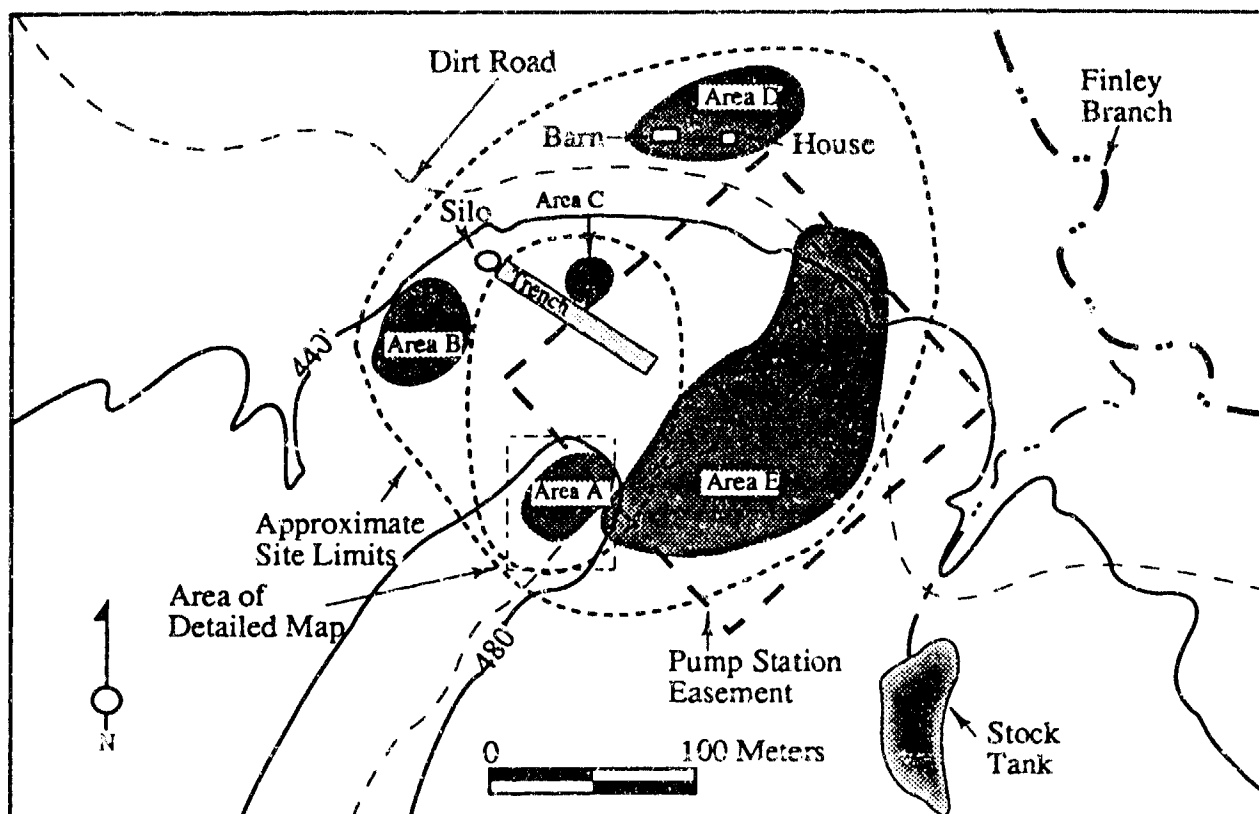


Figure 8-13. Plan of site 41HP158, showing the site subareas defined for the present investigations, the site limits, and the project impact area.

Stratum III is an olive brown (2.5Y5/4) clay with brownish yellow (10YR5/6) mottles. This is the surface soil horizon. Originally a shallow A-horizon was present, but it has been removed by erosion. Historic and prehistoric artifacts have been incorporated into this stratum by the combined effects of cultivation, livestock trampling, and land modifications.

#### *Archival and Informant Information*

According to informant Kenneth Cockrum, his grandmother, Theo Staley, a widow, moved to Texas from Tennessee in 1911. She lived on Merritt Creek, located ca. 4.8 km (3 mi) west of the site, for a year before moving to 41HP158A. In 1911, Theo was the head of the household, which contained herself and four children: Tom (12 years), Opaha (13 years), Bill (2 years), and Ruby Jim (9 months). Theo was remarried in 1913 to Willie Cole, and was then separated from him ca. 1917. She then moved to the Campbell place

(see sites 41HP165, 41HP166, and 41HP167) in 1929. Apparently other tenants then occupied site 41HP158A.

Site 41HP158 (like sites 41HP160, 41HP161, and 41HP162) is located on the Samuel McCullough Survey (A-588). The 53 ha (131 acre) land tract containing site 41HP158 was purchased by H. E. Putnam of Dallas, Texas, in 1915 (Hopkins County Deed Book 89:150). In 1936, the WPA recorded three shacks, described as box and strip houses, all built in 1905. These were occupied by tenants. In all, 0.2 ha (0.5 acre) was reserved for a house, 0.2 ha (0.5 acre) for a garden, 15 ha (38 acres) for pasture, and 32.4 ha (80 acres) for cultivation (28.3 ha [70 acres] for cotton and 4 ha [10 acres] for corn). The remaining 4.9 ha (12 acres) were wasteland. The description of this farm could match either 41HP158 or 41HP161. Only a single house site was shown at the location of 41HP161 on the Hopkins County Lease Improvement District Map, which was surveyed in 1914-1915.

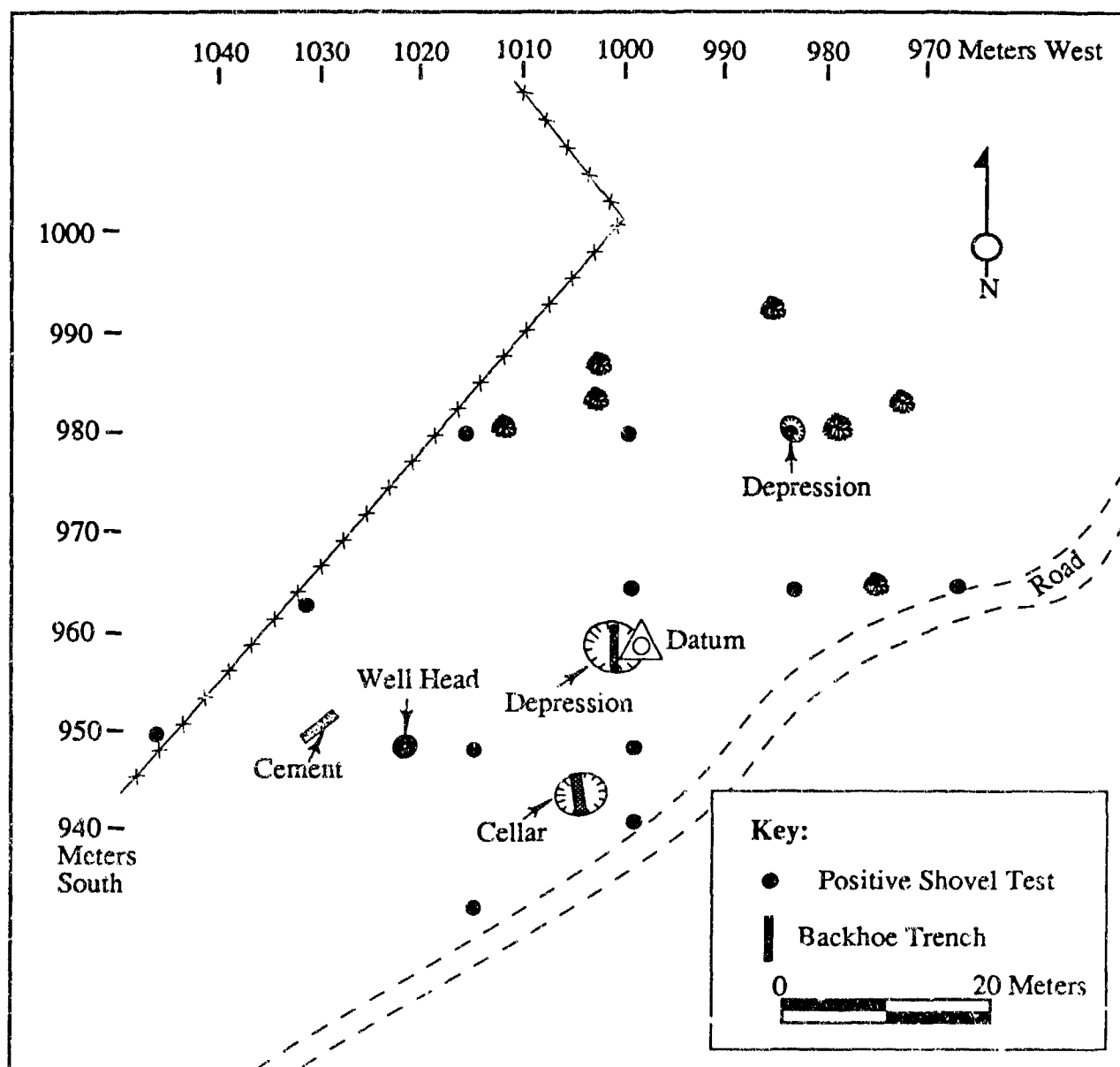


Figure 8-14. Plan of 41HP158A, showing the location of shovel tests, backhoe trenches, and surface features.

### Archaeological Investigations

Fieldwork conducted under the terms of Delivery Order Number 6 consisted of the excavation of 13 units (50 cm x 50 cm) across the entire site. Ten of these units were culturally sterile. In addition, surface features were mapped and surface artifacts were collected from the existing road. Finally, two backhoe trenches were excavated in the unlined (and collapsed) well and storm cellar (see Figure 8-14).

Six prehistoric artifacts were recovered from this historic domicile. These artifacts consisted of four whole flakes (66.6%) and two broken flakes (33.4%). The historic artifact assemblage (Table 8-1) recovered from the road surface, shovel test probes and features (i.e., the well and cellar) at 41HP158A consisted of 155 items, dominated by non-diagnostic glass ( $n=50$ ; 32.3%), manganese solarized glass ( $n=21$ ; 13.5%), ironstone/whiteware sherds ( $n=18$ ; 11.6%), and miscellaneous flat metal ( $n=15$ ; 9.7%).

TABLE 8-1  
Distribution of Historic Artifacts from Site 41HP158,  
Delivery Order Number 6 Study Area

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Vessel Glass	Other Vessel Glass	Window Glass	Cut Nails	Wire Nails	Brick	Personal Items	Bone/ Shell	Misc.	Total
<i>Area A</i>													
N932 W1000	0-13	-	-	-	1	-	-	-	-	-	-	-	1
N964 W1032	0-15	-	1	-	2	-	-	-	1	-	-	-	4
N980 W1016	-	-	-	-	-	-	-	-	-	1	-	-	1
Cellar	0-10	5	1	1	4	-	-	1	-	-	-	5	17
Road Surface 1	0	6	2	14	31	2	1	-	-	-	2	1	59
Road Surface 2	0	10	3	6	15	-	-	1	-	-	-	17	52
Well Surface	0	3	2	-	1	-	1	2	2	-	1	9	21
<i>Area C</i>													
Surface	0	1	-	-	3	-	-	3	-	-	-	5	12
<i>Area D</i>													
N500 W486	0-25	-	-	-	2	-	-	-	-	-	-	6	8
N515 W500	0-30	2	-	1	11	1	1	3	3	-	-	11	33
Well Surface	0	-	-	-	1	-	-	-	1	-	-	1	3
Total	-	27	9	22	71	3	3	10	7	1	3	55	211

Stoneware sherds ( $n=9$ ; 5.8%), linoleum ( $n=5$ ; 3.2%), hand tools and implements ( $n=4$ ; 2.6%), diagnostic glass ( $n=4$ ; 2.6%), wire ( $n=4$ ; 2.6%), wire nails ( $n=4$ ; 2.6%), and plain porcelain ( $n=4$ ; 2.6%) also comprised a large portion of the total assemblage. Brick ( $n=3$ ; 1.9%), mussel shell ( $n=3$ ; 1.9%), decorated ironstone/whiteware sherds ( $n=2$ ; 1.3%), stove parts ( $n=2$ ; 1.3%), window glass ( $n=2$ ; 1.3%), cut nails ( $n=2$ ; 1.3%), and fragments of a heavy machine and a firearm ( $n=1$  each; 0.6% each), a metal rod ( $n=1$ ; 0.6%), and one (0.6%) writing slate fragment round out the assemblage.

The writing slate dates ca. 1850-1880. The manganese solarized vessel glass dates ca. 1880-1920. The presence of both cut and wire nails indicates construction in both the nineteenth and twentieth centuries.

#### *Site 41HP158B*

This area of the site (see Figure 8-13) contained the machine shop and headquarters for the H. E. Putnam farm, dating to the 1950s. Structural ruins remain from the barn, feeding, and stabling areas. A well, containing bricks which were recycled from the Delta County Courthouse in the 1950s, is also present. No artifacts were collected, since they consisted only of wire, galvanized metal, and structural debris.

#### *Site 41HP158C*

Field investigations consisted of close interval (2 m) pedestrian reconnaissance, mapping of surface debris (Figure 8-15), and collection of representative artifacts. Since this component was obviously less than 50 years old, based on informant interviews and material culture, no test excavations were necessary to evaluate its National Register eligibility. The twelve historic artifacts (see Table 8-1) recovered from this area of site 41HP158 included three wire nails (42.8%), three non-diagnostic glass fragments (42.8%), one plain ironstone/whiteware sherd (14.4%), and five miscellaneous items.

Site 41HP158C was a tenant house and brick cistern adjacent to a large earthen trench or silo which was used to store silage. It has been severely eroded since its last use in the 1970s.

None of the artifacts predated 1939, and archival information indicated a lack of historical significance. Among the possible occupants, the Pearson, Wilkes, Massey, and Kerbow families were identified by informants (see Chapter 7, this report).

#### *Site 41HP158D*

This was the 1926-1950s house site of Elbert and Ruby Jim Cockrum. There were bois d'arc piers remaining from the house (Figure 8-16), around which shovel test excavations were placed. A well depression was present and a backhoe trench was excavated through this feature. This well was located between the house and barn.

#### *Stratigraphy*

The single soil stratum identified at site 41HP158D, a dark grayish brown (10YR4/2) clay loam, was excavated to a maximum depth of 50 cm in the backhoe trench through the well (see Figure 8-16). All Historic period cultural materials were derived from this stratum.

#### *Archaeological Investigations*

Fieldwork consisted of the excavation of four 50 cm x 50 cm units and a single backhoe trench. Informant interviews were conducted with Kenneth Cockrum, who was born in the house. The historic artifact assemblage (see Table 8-1) recovered from the shovel test probes and backhoe excavation of the well fill at 41HP158D included 44 items, dominated by non-diagnostic vessel glass ( $n=12$ ; 27.3%), miscellaneous flat metal ( $n=11$ ; 25%), and wire ( $n=6$ ; 13.6%). Whole wire nails ( $n=3$ ; 6.8%), machine-made brick ( $n=4$ ; 9.1%), diagnostic glass ( $n=2$ ; 4.5%), ironstone/whiteware sherds ( $n=2$ ; 4.5%), window glass ( $n=1$ ; 2.3%), a ceramic doorknob ( $n=1$ ; 2.3%), one (2.3%) sherd of manganese solarized glass, and a single (2.3%) whole cut nail round out the assemblage.

#### *Site 41HP158E*

This area (see Figure 8-13) was revisited by McGregor and Roemer in 1988, but was not deemed to be significant. This portion of the ridge

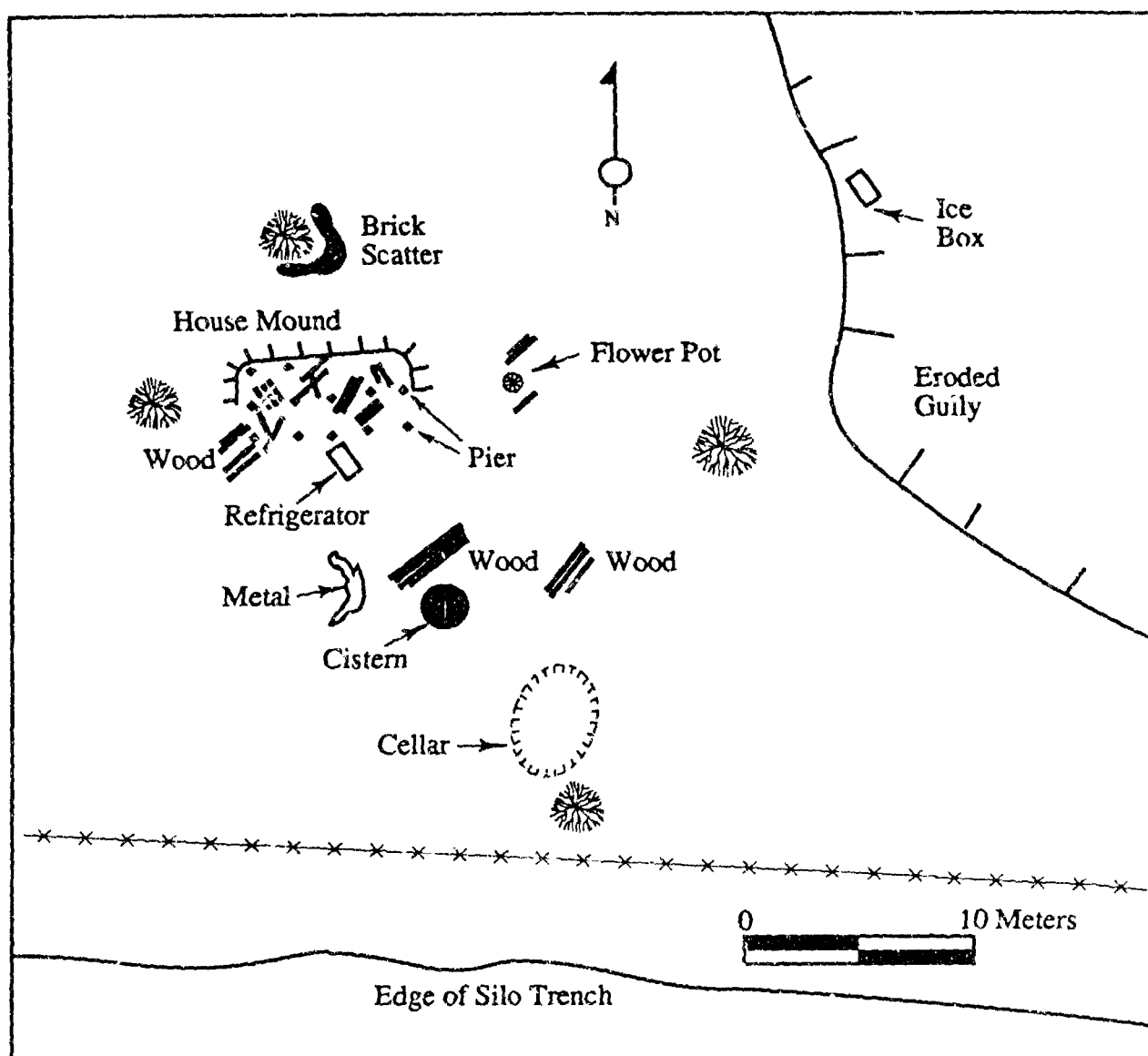


Figure 8-15. Plan of 41HP158C, showing the location of structural debris and surface features.

was extremely eroded. Extensive erosion has exposed the root systems of second-growth oak trees throughout this area of the site.

#### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 consisted solely of surface collection. Whole (55.8%) and broken (18.6%) flakes comprise the majority of the 43 prehistoric artifacts recovered from this area of site 41HP158. Quarrying activities are thought to

have been the primary use of the site by numerous prehistoric groups through time. Diagnostic artifacts from 41HP158E include one broken Gary point and one Perdiz arrow point fragment (4.6%; Figure 8-17). The remainder of the assemblage includes unworked cobbles (11.6%), fire-cracked rock (4.6%), bifaces (2.4%), and cores (2.4%). One unique item, a Waco sinker formed on a quartz cobble, was recovered. This artifact is hypothesized to have functioned as a sinker weight or bola stone, and dates to the Archaic period (Turner and Hester 1985:258).

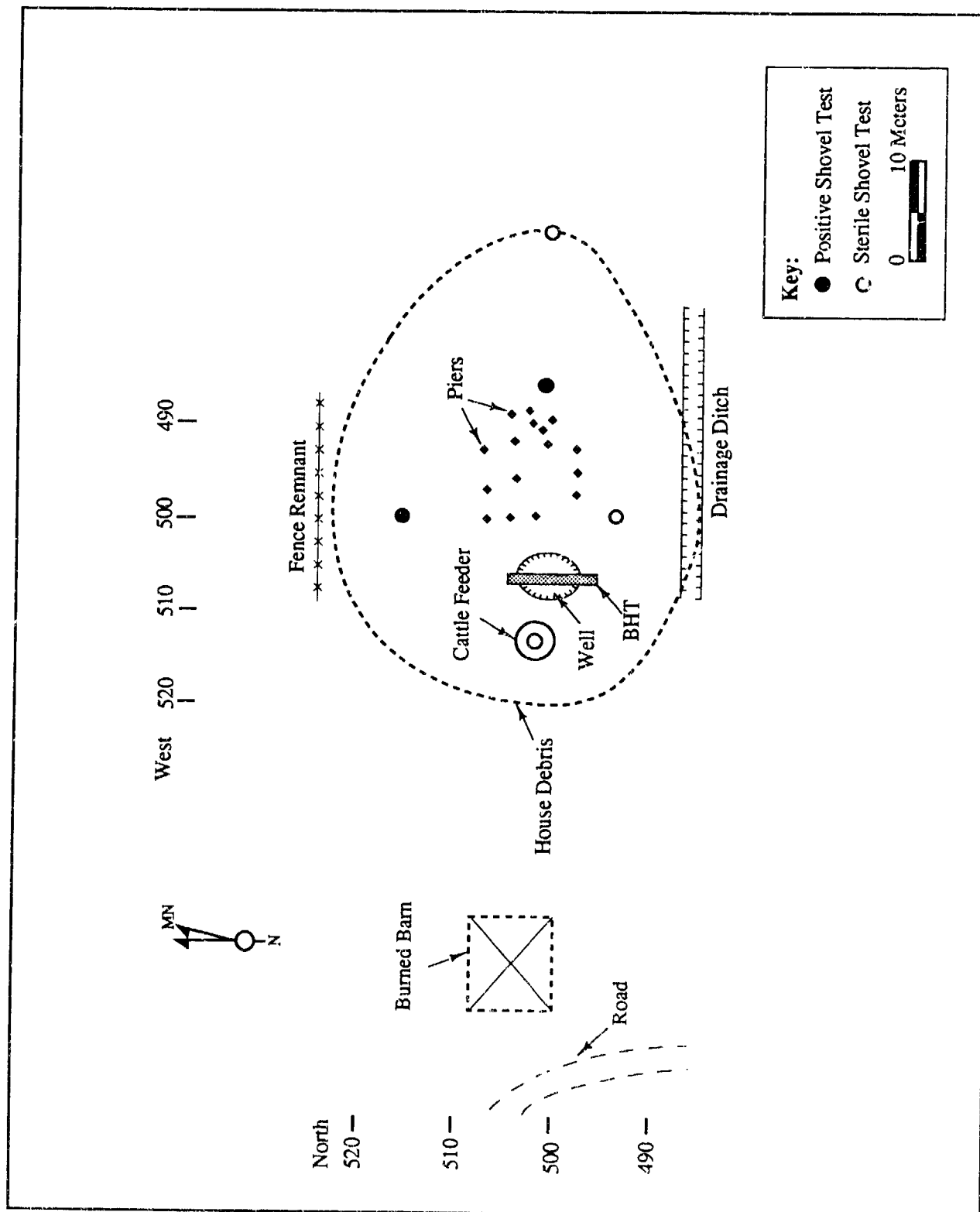


Figure 8-16. Plan of site 41HP158D, showing the location of surface features, structural remains, shovel tests, and the single backhoe trench.



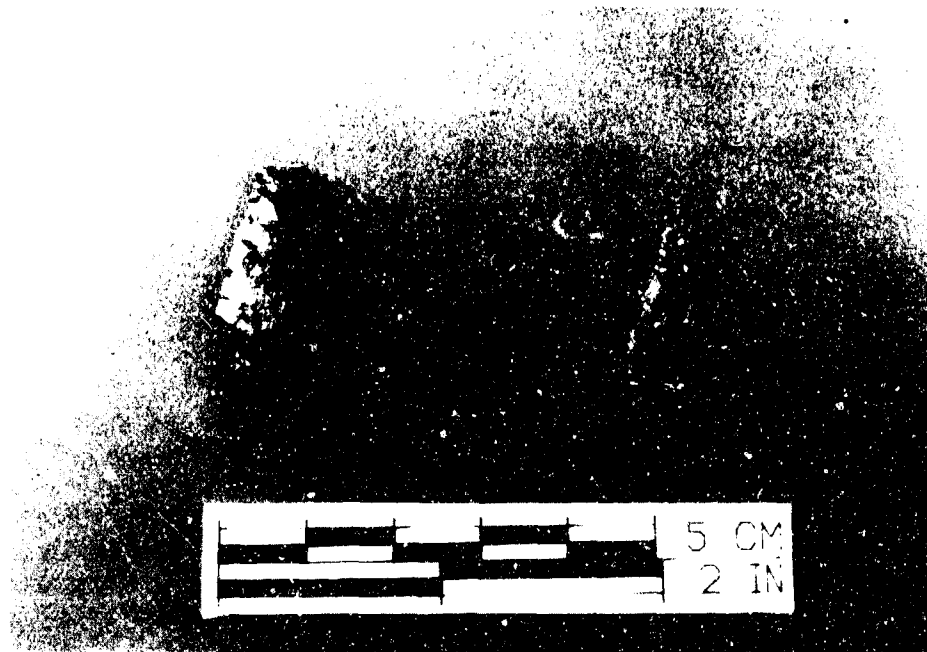


Figure 8-17. Projectile points from site 41HP158E, Cooper Lake Delivery Order Number 6 study area. Left-right: Gary dart point fragment (surface of road bed), Perdiz arrow point fragment (surface).

### *Recommendations*

Due to the extensive disturbances wrought at this site as a whole and the recent age of its intact historic components, site 41HP158 has low potential to yield significant historic or prehistoric archaeological data. The entire site and individual components are deemed clearly not eligible (Category III) for the National Register because they fail to meet the criteria of significance. Current information indicates that this site has low potential to address the questions presented in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### **Site 41HP159**

Prehistoric site 41HP159 is located between the 1914-1915 artificial channel and the original course of Finley Branch (Figure 8-18; see Figure 8-12). The soil type at the site is Nahatche soil, which was formed in deep alluvium and becomes flooded several times during most years (Lane 1977:19-20). The elevation is ca. 130-131 m

(425-430 ft) above msl. In its native state, this was a floodplain forest consisting primarily of oak trees. It has been clear cut and intensively cultivated in the past, and is in fallow pasture and secondary forest today.

### *Stratigraphy*

Four natural soil strata were identified in BHT 1 and Trackhoe Trench 10 at site 41HP159 (Figure 8-19a). These strata are described below in stratigraphic order from oldest (lowest) to youngest (uppermost).

In general terms, Stratum I at 41HP159 is a thick section of silty clay loams tentatively classified as C soil horizons. They are horizontally continuous across the entire site, and may be correlated to the C-horizon soils (i.e., Strata IV and V) at the Deep Creek Crossing (41HP155) site.

Stratum I at 41HP159 is a silty clay loam, grayish brown (10YR5/2) to dark brown (10YR6/2), with red (5YR6/6) mottles. It has a gradual upper boundary which is 85 cm below ground surface, and was excavated to a maximum depth of 370 cm below ground surface.

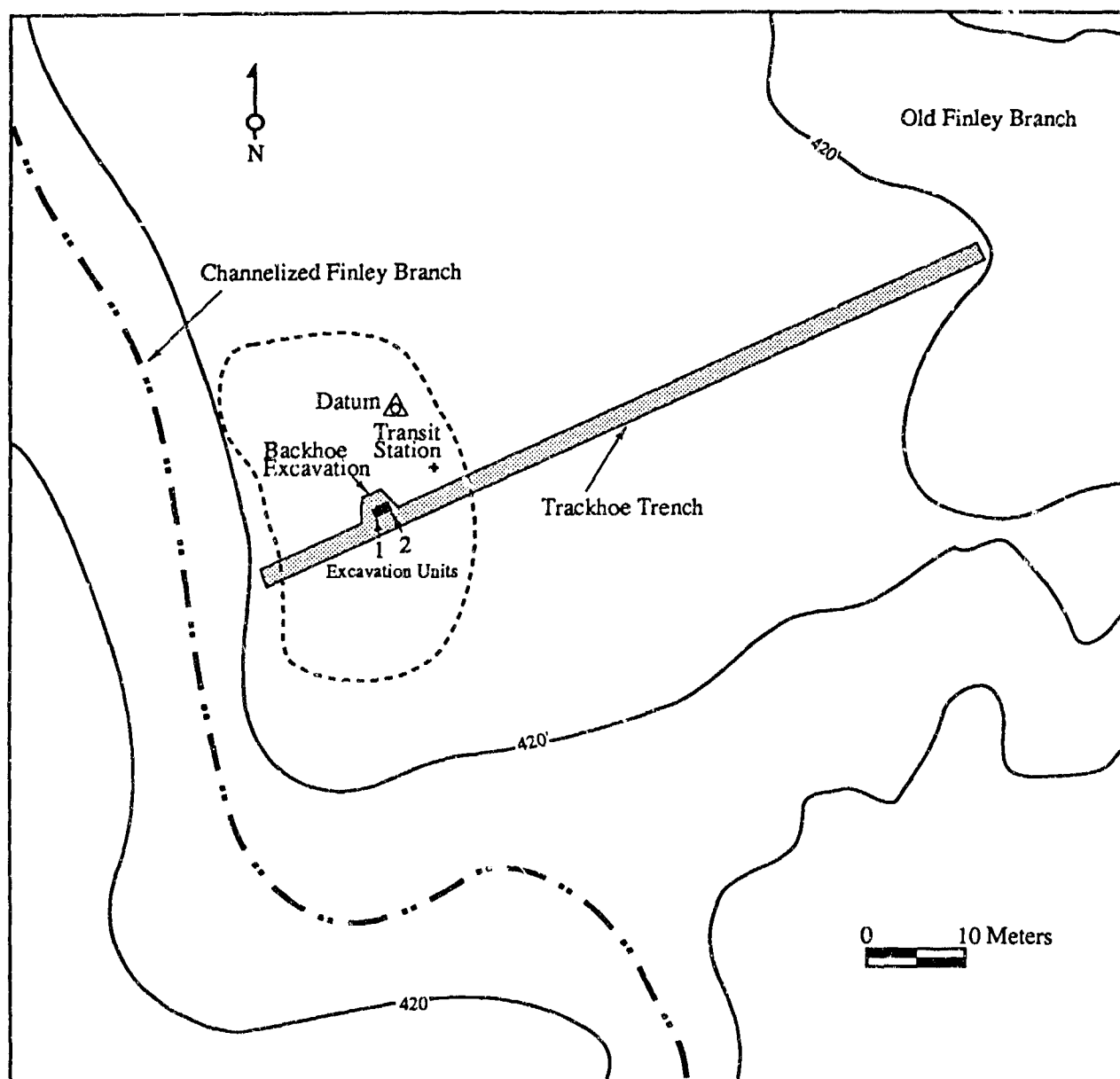


Figure 8-18. Plan of site 41HP159, showing site limits and site excavations, as well as the trackhoe trench excavated between the artificial channel and the original course of the Finley Branch.

Four texturally distinct soil horizons are present within Stratum I. The lowest, 220-370 cm below ground surface, is classified as a 2Cb3. This is overlain by a 2Cb2, 135-220 cm below ground surface. The third soil horizon is classified as a 2Cb1, 100-135 cm below ground surface. The fourth is a 2ACb soil horizon, found 85-100 cm below ground surface. A radiocarbon sample from Feature 1 (carbon in soil matrix with fire-cracked rock) in this stratum, 130 cm below ground

surface, yielded a dendrocalibrated date of  $3626 \pm 114$  B.C. (SMU-2222).

Stratum II at site 41HP159 is an A soil horizon, with two texturally distinct soil horizons. The lowest is classified as a 2ACB. It is a silty clay, transitional with Stratum I. The next horizon is a 2AB2 and is a grayish brown (10YR5/2) silty clay. It has a gradual upper boundary which varies 60-65 cm below ground surface. The uppermost soil horizon in Stratum II is a 2Ab1. It has a

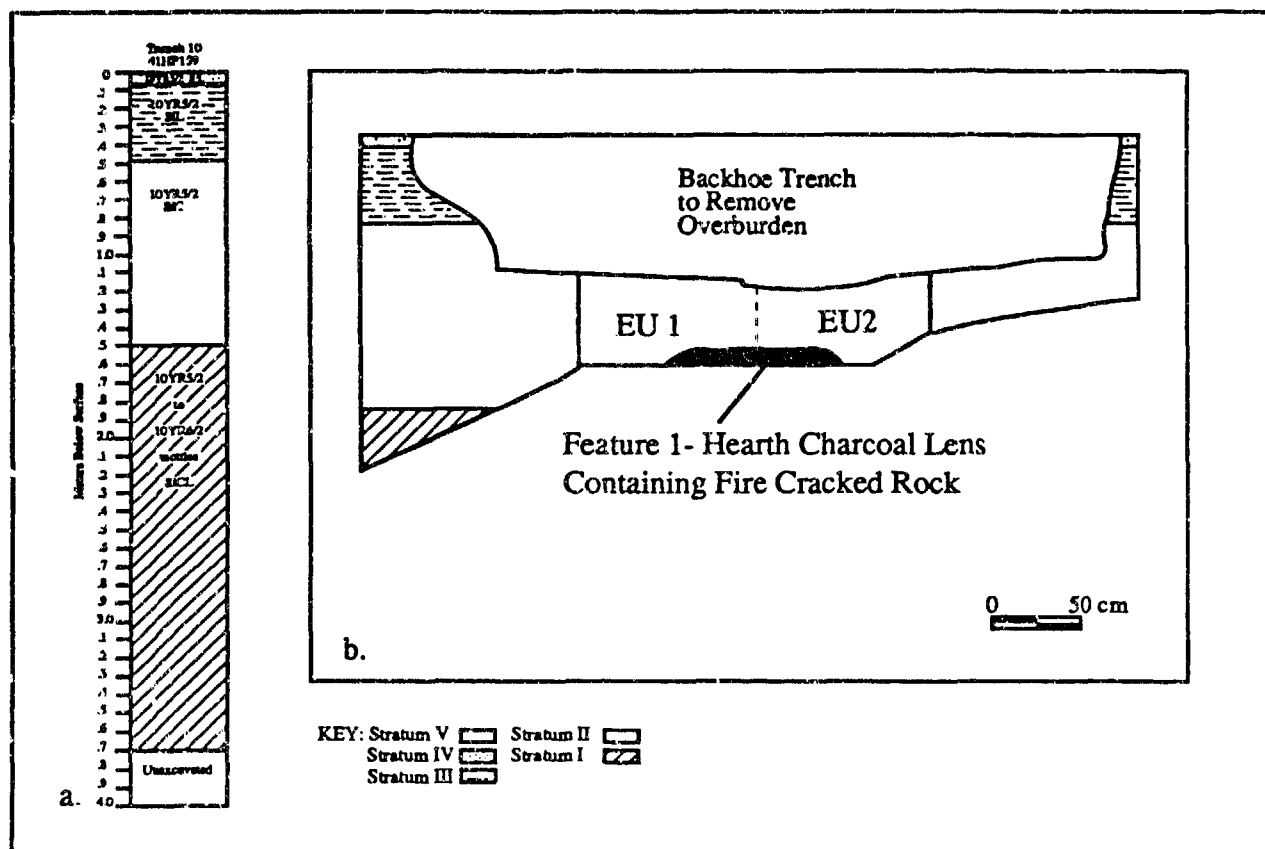


Figure 8-19. Stratigraphic profiles of central trackhoe trench at site 41HP159: a, north wall in vicinity of Feature 1; b, Feature 1 (a hearth) in units EU 1 and EU 2.

gradual upper boundary of 48 cm below ground surface. No cultural materials were recovered from this stratum in the vicinity of Feature 1 or the soil profile areas of Trench 10 (41HP159), but some were present in this stratum in other areas of the site.

Stratum III is horizontally continuous at the 41HP159 site. It is a grayish brown (10YR5/2) silt loam, with an abrupt upper boundary at 5 cm below ground surface. This stratum appears to be alluvial in origin.

Stratum IV is the surface soil horizon. It is a dark grayish brown (10YR4/2) silt loam. Fire-cracked rocks, possibly redeposited by creek flooding, were present on the ground surface within the 41HP159 site area.

#### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 began with exploration

of this landform using a large trackhoe. A trench was excavated from the artificial channel to the original course of Finley Branch to define the nature of the landform (see Figure 8-18). At the junction of both channels, deep excavations (1.5 m x 5 m x 7 m) were used to determine whether cultural features may be deeply buried. These units were only examined from the side due to the danger of entry, and the sediments were spread adjacent to the units for examination.

During this excavation, a large concentration of fire-cracked rock and dark soil was encountered at 120 cm below the ground surface (Figure 8-19b). This concentration, labeled Feature 1, was a basin-shaped pit or hearth (Figure 8-20). All materials from the trackhoe bucket were screened, but the only artifacts recovered were fire-cracked rock. Both walls of the trench were troweled and profiled, revealing that just the southern edge of the feature had been exposed.

A radiocarbon sample (SMU-2222) was

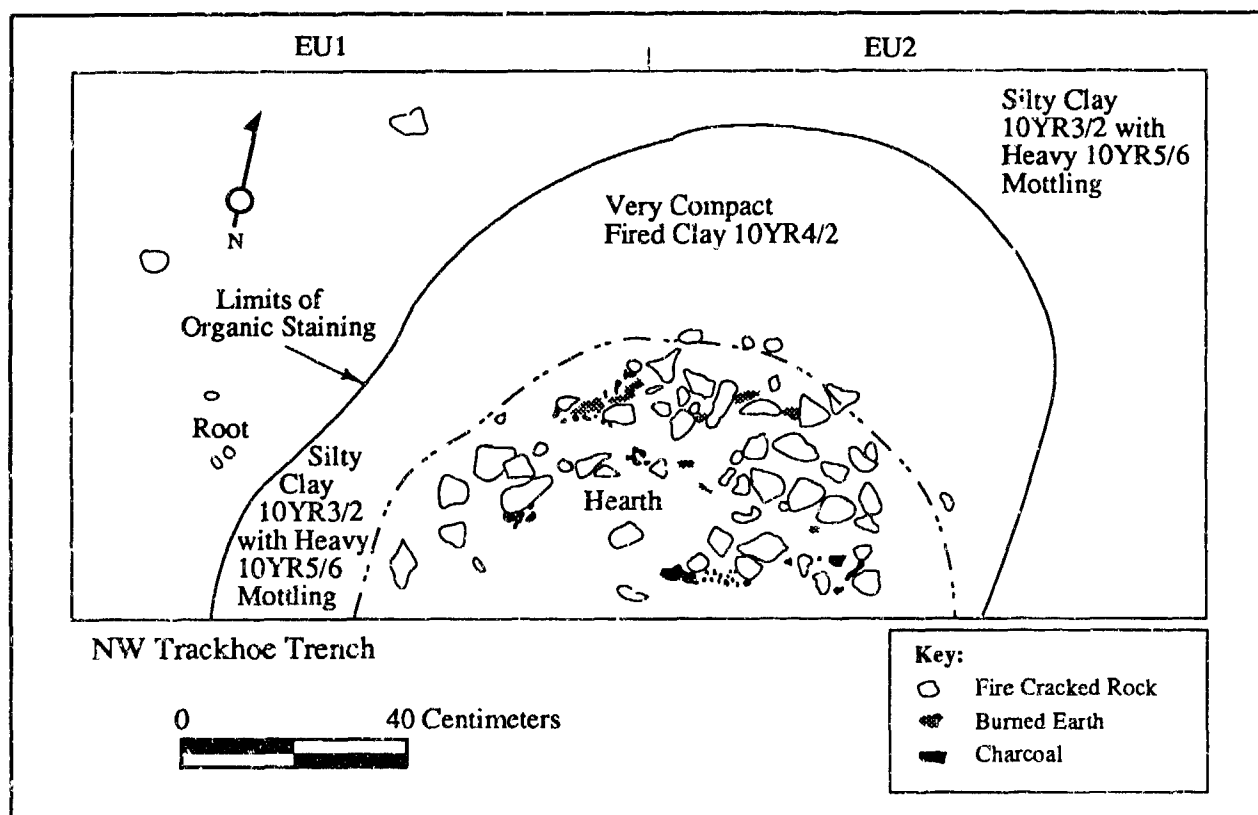


Figure 8-20. Plan view of Feature 1 at site 41HP159, ca. 120 cm below ground surface.

taken from the charcoal-flecked soil at the base of Feature 1 (130 cm below ground surface). A backhoe then was used to remove the overburden to the north of the trackhoe trench. Once this had been accomplished to 80 cm below surface, two 1 m x 1 m units (Excavation Units 1 and 2) were placed above Feature 1 and excavated in 10 cm levels (all soil screened through 0.25 in mesh). No artifacts were encountered until the hearth was defined at 120 cm below surface. A distinct soil discoloration was noted, with a central scatter of fire-cracked rock, burned earth, and charcoal, all of which was surrounded by a very compact clay that appeared to have been fired (Figure 8-21). Only two pieces of fire-cracked rock were noted outside Feature 1. The surrounding soil was a silty clay with root discolorations and heavy mottling, indicating ground water fluctuation.

Excavation of a second level (130-140 cm below ground surface) completely removed the organically stained portions of Feature 1. At 130 cm below ground surface, a second plan view was drawn (Figure 8-22), the outlines of which

suggested a linear basin within the hearth. This is the area from which the radiocarbon sample (SMU-2222) was taken, since it contained the highest density of charcoal.

The only artifacts (other than fire-cracked rock) that were recovered from Feature 1 were four whole flakes, a broken flake, and a single edge modified flake. In all, 327 fragments of fire-cracked rock were recovered from the screened trackhoe backdirt and the two hand excavated 1 m x 1 m units. All of these remains were Ogallala quartzite, presumably obtained from local sources.

The radiocarbon assay from Feature 1 (see above) yielded the oldest date yet obtained from any archaeological context at Cooper Lake. Only humate dates taken from soils and sediments have yielded older dates (Bousman, Collins, and Pertulla 1988:147). Although Feature 1 appears to be associated with Middle Archaic period exploitation of local Uvalde gravels, no culturally diagnostic artifacts were recovered. Based on the context and content of Feature 1, this hearth may have served for the heat treatment of finished

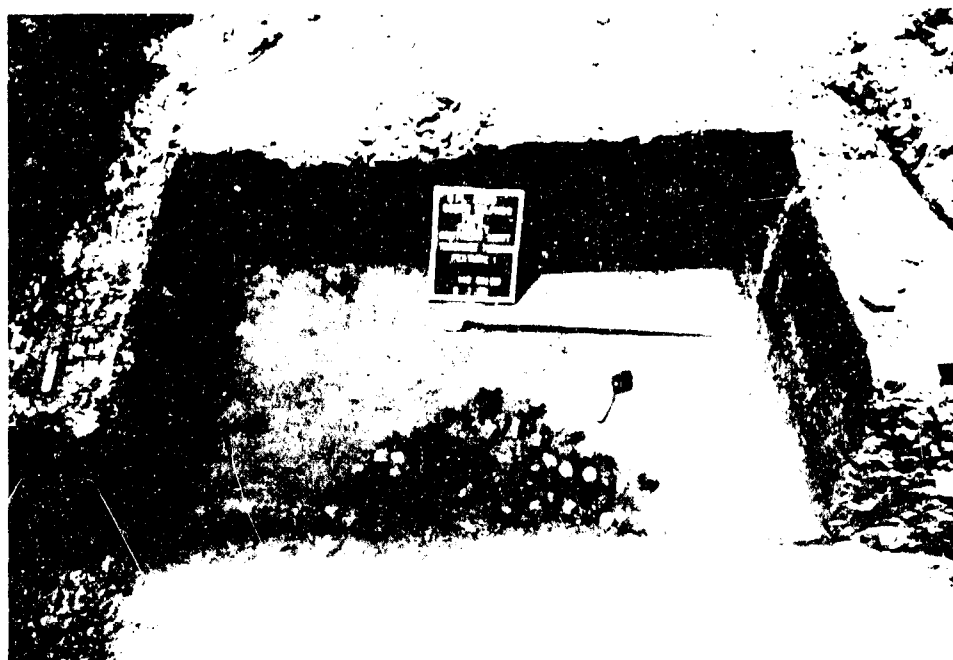


Figure 8-21. General view of Feature 1 at site 41HP159, at a depth of 130 cm below ground surface. The feature was first identified at 120 cm below ground surface.

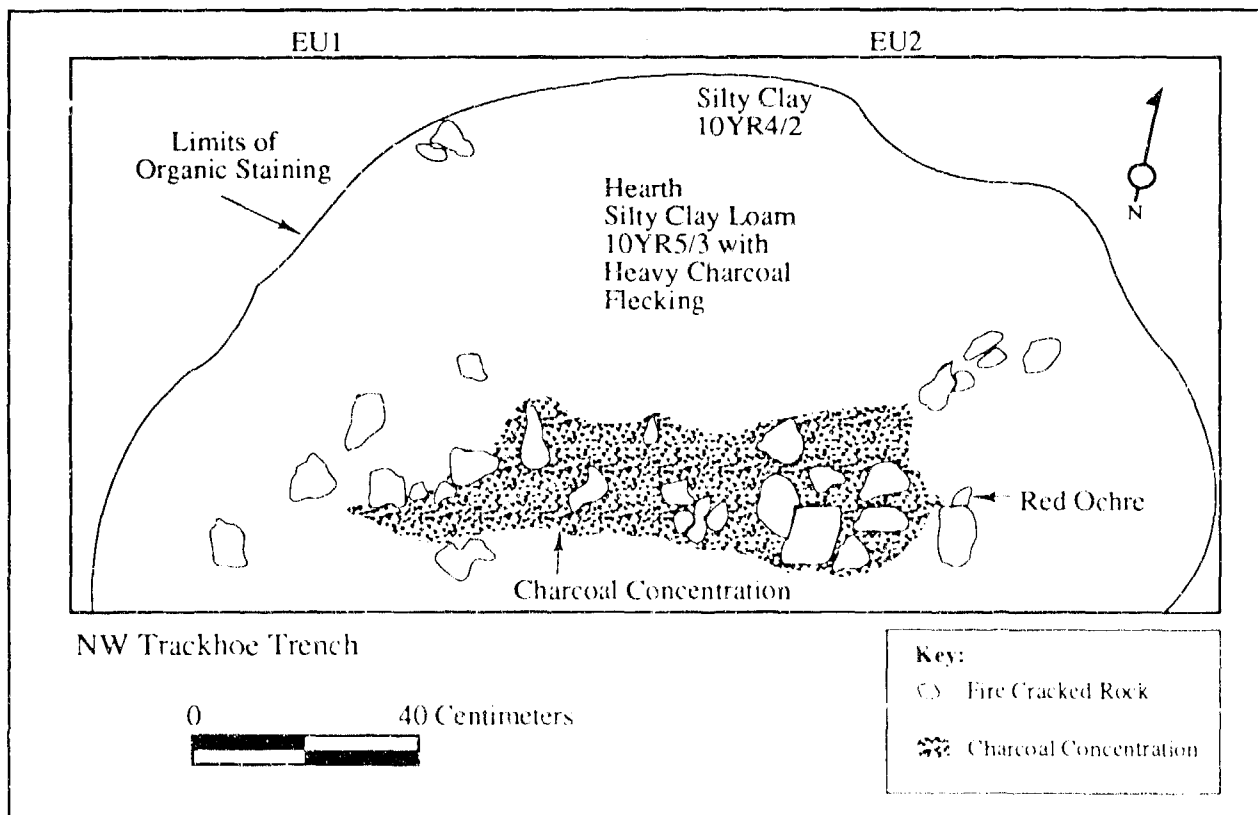


Figure 8-22. Plan view of Feature 1 at site 41HP159, at a depth of 130 cm below surface.

Ogallala quartzite cores or bifaces made elsewhere on the site.

### *Recommendations*

Site 41HP159 will be impacted and/or destroyed by the construction of the North Texas Municipal Water District Intake Facility. Consultations conducted with the CE and SHPO reached agreement on an appropriate strategy to deal with 41HP159. An additional work order (Delivery Order Number 7) was subsequently written, which included exploratory backhoe work to the north and south of Feature 1, as well as completing the survey of unsurveyed portions of Cooper Lake. The results of this investigation (Jurney et al. 1993) indicate that site 41HP159 is potentially eligible for the National Register (Category I). It has great potential to address the chronological and material culture questions outlined in the Research Design. Additionally, mitigative excavations were conducted by Prewitt and Associates, Inc. (PAI) in 1989-1990 (Gadus et al. 1991).

### **Site 41HP160**

Prehistoric site 41HP160 is located at an elevation of 128 m (420 ft) above msl along both sides of the artificial channel of Finley Branch, which was excavated as a part of the Hopkins County Levee Improvements in 1914-1915 (Figure 8-23; see Figure 8-12). These early excavations passed through this site, as can be determined from the present scatter of surface artifacts and from our excavations. Situated on the Finley Branch alluvial fan, the site was covered by a hardwood forest dominated by oaks in its native state. This area was intensively cultivated during the late nineteenth and twentieth centuries, and a historic farmstead (41HP161) is located ca. 100 m (328 ft) to the south. It is in fallow field pasture and second-growth forest today.

### *Stratigraphy*

Four natural soil strata were identified in the backhoe and trackhoe excavation at site 41HP160. These are discussed in relative order from oldest (lowest) to youngest (uppermost).

Stratum I is a dark yellowish brown (10YR4/4) to silty loam with reddish yellow (7.5YR7/8) to yellowish red (5YR5/6) mottles. It has a gradual upper boundary at 2.5 m below ground surface and was excavated to a maximum depth of 7.0 m below ground surface. It is culturally sterile.

Stratum II is a dark grayish brown (10YR4/1) loam. It has a gradual upper boundary at 1.0 m below ground surface. It is culturally sterile.

Stratum III is a dark grayish brown (10YR4/1) clay loam. It has an abrupt upper boundary at 35 cm below surface. Fire-cracked rock, flakes, and a dart preform, all of Ogallala quartzite, were recovered in what appears to be a cultural zone 35-80 cm below ground surface.

Stratum IV is the surface soil horizon. It is a dark grayish brown (10YR4/1) silty clay. Although some prehistoric materials were noted in eroded areas in the 41HP160 site area, they do not appear to be derived from this stratum. Instead, Stratum IV appears to be derived from post-historic settlement alluviation and land modifications associated with agricultural practices. Also, some of this stratum may be derived from the channelization of Finley Branch.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, and backhoe and trackhoe excavations. A permanent datum was placed on the site. The soil was examined by Rolfe Mandel and is similar to the description presented in Chapter 6 for site 41HP159.

Surface evidence for this prehistoric site consisted of a scatter of flakes and fire-cracked rock in the gravel bars of Finley Creek and along cattle trails which pass through the eastern and western banks of the artificial channel. Based on the surface distribution of these items, the site is estimated to have covered ca. 5,000 m<sup>2</sup>. This area was originally slated to be impacted by construction of the Water Intake Facility when our investigations began. Surface collections were made and site boundaries were defined.

Excavations were conducted to a depth of 7 m (23 ft) below ground surface (the anticipated

depth of the impact zone). Since the eastern portion of the site had been extremely eroded, test excavations were limited to the western portion of the site. First, a 19 m (62.3 ft) long backhoe trench was excavated perpendicular to the artificial channel (see Figure 8-23). This trench was excavated in 10 cm increments and the soil was gradually sifted (unscreened) as it was dumped along the wall of the trench. Topsoil (0-35 cm below ground surface) was separated from the subsoil (35-100 cm below ground surface) by separating these horizons on each side of the

trench. Fire-cracked rock and occasional flakes were encountered from the edge of the channel to a point 17 m (55.8 ft) to the southwest. The majority of these artifacts were located ca. 35-80 cm below ground surface. No diagnostic artifacts were recovered, but a single preform was recovered at ca. 65 cm below ground surface.

Since there was a potential for deeply buried deposits in the proposed construction area, it was necessary to clear a broader portion of the site. A 115 m<sup>2</sup> block excavation was proposed 10 m north of the first backhoe trench, beyond the cattle

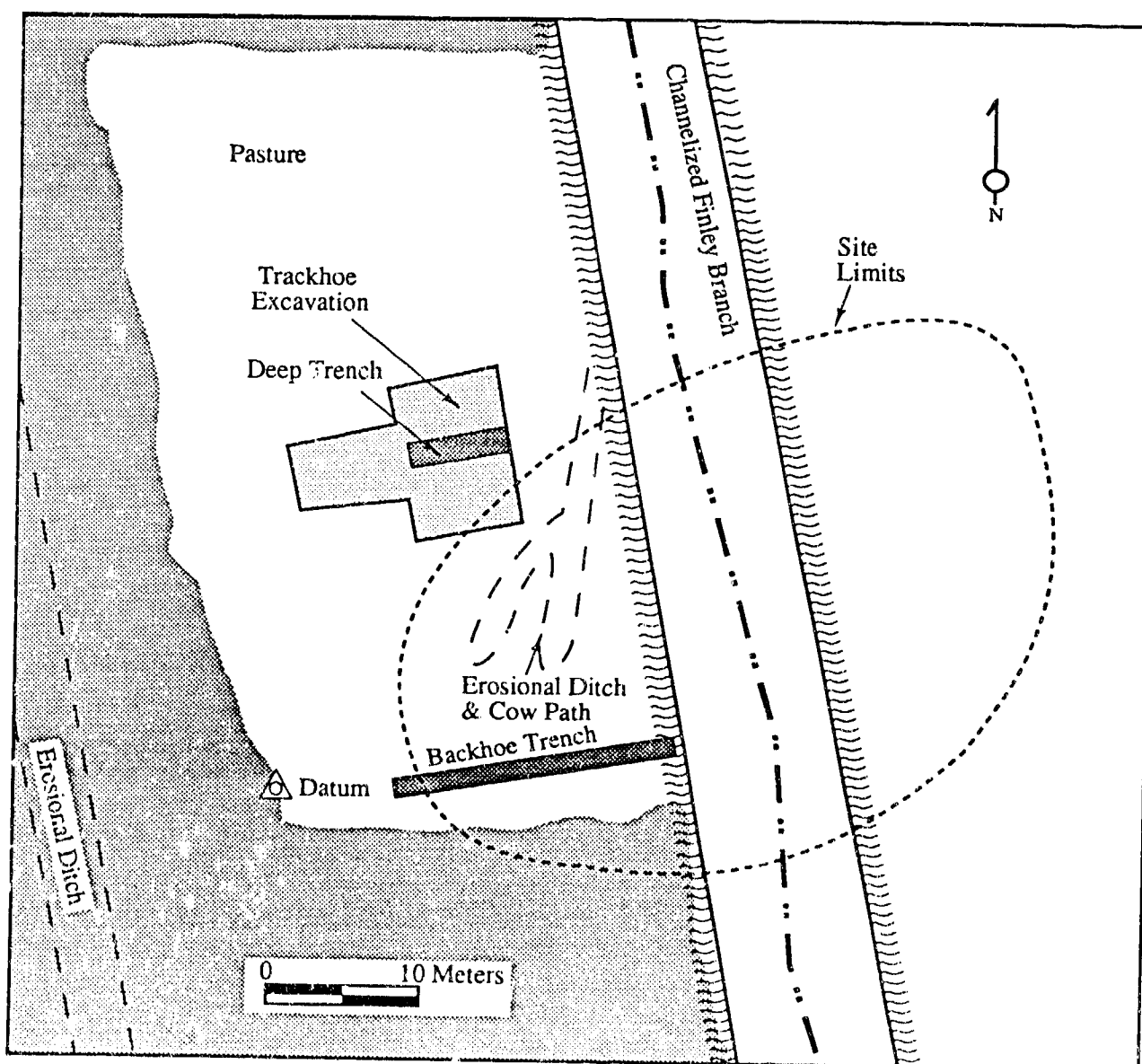


Figure 8-23. Plan of site 41HP160, showing the location of backhoe and trackhoe excavations as well as areas of artificial disturbance.

trails which contained artifacts. A trackhoe was used to excavate this block to 3 m below ground surface, and a backhoe was then employed to excavate a 14 m<sup>2</sup> block within this area to a depth of 7 m below ground surface. Although artifacts were encountered in the backhoe trench, no artifacts or buried lenses were encountered in the trackhoe block.

The purpose of the excavations at this site was to determine the presence/absence of potentially significant subsurface deposits. Since so few items were noted in the backhoe trench, only a 10-liter sample of soil was screened within the zone between 75 cm and 85 cm below ground surface. No artifacts were recovered. Since the observed artifacts were not concentrated and were obviously low-density remains of past activities at the site, a formal stratigraphic testing and 100% screening program was not initiated.

Forty-four lithic artifacts were recovered from the cattle trails and the backhoe trench at the site. Whole and broken flakes and fire-cracked rock comprise the majority of these prehistoric artifacts (31.8%, 15.9%, and 25%, respectively). Cores (13.6%), unifaces (6.8%), irregular flakes (4.5%), ground stone (2.2%), and a single preform make up the remaining artifacts. All lithic materials are Ogallala quartzite, and nearly all show evidence of heat treatment or thermal alteration. In addition, a single grog-tempered ceramic sherd was recovered.

### *Recommendations*

Based on the surface evidence and the density of artifacts in the lag gravels of the artificial channel of Finley Creek, over 90% of this site has been destroyed. Although intact deposits of flakes and fire-cracked rock were encountered in the southern backhoe trench, this deposit did not extend more than 15 m to the north and was only 17 m west of the artificial channel. In addition, as these remains were extremely low density, it became obvious that a large volume of soil would have to be excavated in order to recover an interpretable artifact assemblage. Based on the disturbances caused by the excavation of the artificial channel over 75 years ago, subsequent severe erosion and downcutting since that time, and the present cattle trails, this site has poor

integrity. The site will be under the reservoir, and plans for the intake channel have been changed so that it is not currently within a construction easement. It will be within the zone of vegetation clearance.

The site is deemed not eligible (Category III) for the National Register. Current information indicates that this site has low potential to address the material culture, chronological, and subsistence questions presented in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

### **Site 41HP161**

This historic site is located on the west side of Finley Creek (Figures 8-24, 8-25; see Figure 8-12) and will be impacted by the Water Intake Facility. The site is situated on a Nahatche clay loam soil at 129.5 m (425 ft) above msl. In its native state, this was floodplain forest dominated by oaks. It has been cleared and intensively cultivated in the past, and is in fallow field pasture and second-growth forest today.

### *Stratigraphy*

A single soil stratum, a dark gray (10YR4/1) silty clay, was identified at the site 41HP161. All cultural materials are derived from this stratum. It was excavated to a maximum depth of 35 cm below ground surface.

### *Archival Information*

Site 41HP161 is located on the Samuel McCullough Survey (A-588), a 170 ha (420 acre) tract which was patented to Eli Lindley on 20 May 1872 (Hopkins County Deed Book 107:520). In 1936, site 41HP161, along with site 41HP158, was located on a 53 ha (131 acre) tract which was purchased by H. E. Putnam in 1915 (Hopkins County Deed Book 89:150). In 1936, this house was present and described as a box and strip dwelling built in 1905.

The material culture and architectural remains at site 41HP161 suggest two scenarios. It is possible that a previous structure was located at the site. Conversely, it is possible that the 1905





Figure 8-24. General view of site 41HP161, facing south.

house at the site was rebuilt using lumber derived from an older building. In 1914-1915, the house at 41HP161 was shown at its present location.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, and shovel testing. A permanent datum was placed on the site. The site's boundaries were determined by the excavation of 18 shovel tests (Figure 8-25). An array of artifacts was recovered from the site (Table 8-2), of which non-diagnostic glass fragments, brick fragments, and metal and metal fragments constitute the majority. Additional architectural items included both cut and wire nails, window glass, and cement/mortar. The ceramic artifacts from the site were identified as ironstone whiteware and stoneware. Other artifacts, present in low frequencies, provide a suggestion of the activities carried out at this historic site. These items include horse and stable equipment, hand tools and implements, firearms, harmonica parts, doll parts, buckles and belts, and shoe parts.

### *Recommendations*

Site 41HP161 is classified as Category III. This locality is a turn-of-the-century house site that was occupied by at least one, and possibly more, tenant families. It has low to moderate potential to yield information relevant to the material culture, chronological, and subsistence questions outlined in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### **Site 41HP162**

Site 41HP162 contains prehistoric and historic components and is located east of the original course of Finley Branch, ca. 250 m east of site 41HP158 (Figure 8-26; see Figure 8-12). The site covers ca. 17,500 m<sup>2</sup> of a broad terrace landform at an elevation of 131 m (430 ft) above msl. The site area is inundated only during periods of the most intensive flooding. It is traversed by a northeast-southwest trending dirt road. The site has been divided into a north locus and a south locus for the purposes of the present discussion. The soil is Nahatche clay loam (Lane

TABLE 8-2

Distribution of Historic Artifacts from Site 41HP161,  
Delivery Order Number 6 Study Area

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Solarized Vessel Glass	Other Vessel Glass	Window Glass	Cut Nails	Wire Nails	Brick	Personal Items	Horse and Stable Items	Bone	Miscellaneous	Total
STP 1														
N14 W6	0-26	-	-	-	-	-	-	-	-	-	-	-	1	1
STP 3														
S10 E0	0-60	2	-	1	7	1	-	1	-	1	-	-	22	35
STP 4														
S20 E0	0-35	1	-	-	2	-	1	-	-	-	-	-	28	32
STP 6														
S0 E10	0-30	1	1	-	1	-	-	3	1	-	-	-	2	9
STP 7	-	-	-	-	-	-	-	-	-	-	1	-	-	1
STP 9	0-35	1	-	-	6	-	-	-	-	-	-	-	1	8
STP 10														
S0 W20	0-33	2	-	-	7	2	-	-	2	-	-	-	3	16
STP 11														
S10 W20	0-60	5	1	4	20	-	-	16	-	2	1	3	271	323
STP 12														
S0 W34.5	0-33	-	-	1	2	-	-	-	-	-	-	-	1	4
STP 13														
S0 W20	0-42	-	-	-	-	-	-	-	-	-	-	-	1	1
STP 14														
S20 W10	0-60	-	-	14	12	-	-	1	4	-	-	-	11	42
STP 15														
S10 W10	0-34	-	-	-	1	-	-	-	-	1	-	-	-	2

Table 8-2 (cont.)

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Solarized Vessel Glass	Other Vessel Glass	Window Glass	Cut Nails	Wire Nails	Brick	Personal Items	Horse and Stable Items	Bone	Miscellaneous	Total
STP 18														
N10 E10	0-23	-	-	-	1	-	-	-	-	-	-	-	-	1
Well/Brick Scatter	0	-	1	-	1	-	-	-	-	-	-	-	-	2
Total		12	3	20	60	3	1	21	7	4	2	3	341	477

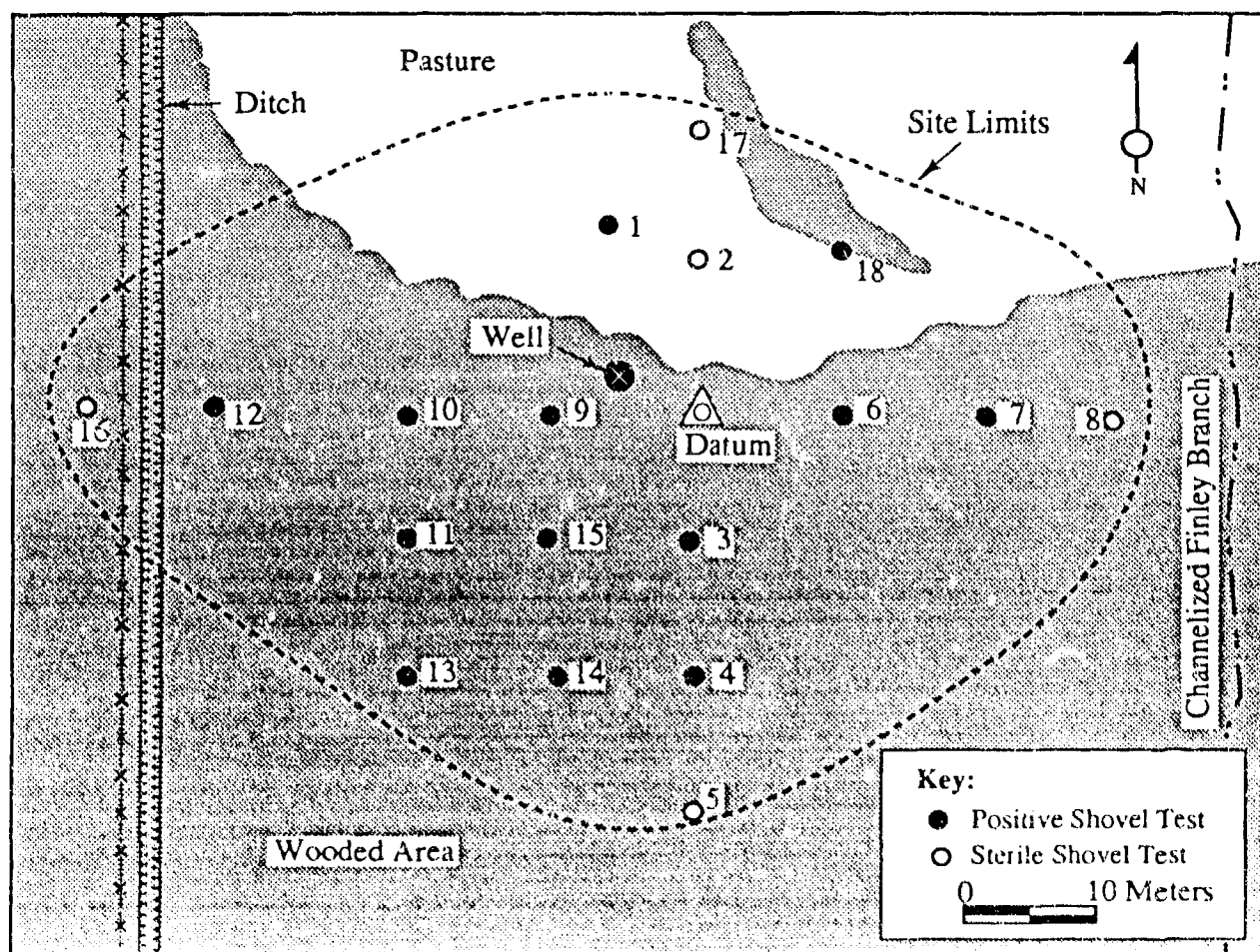


Figure 8-25. Plan of site 41HP161, showing the location of shovel tests, surface features, and site limits (as defined by positive shovel tests).

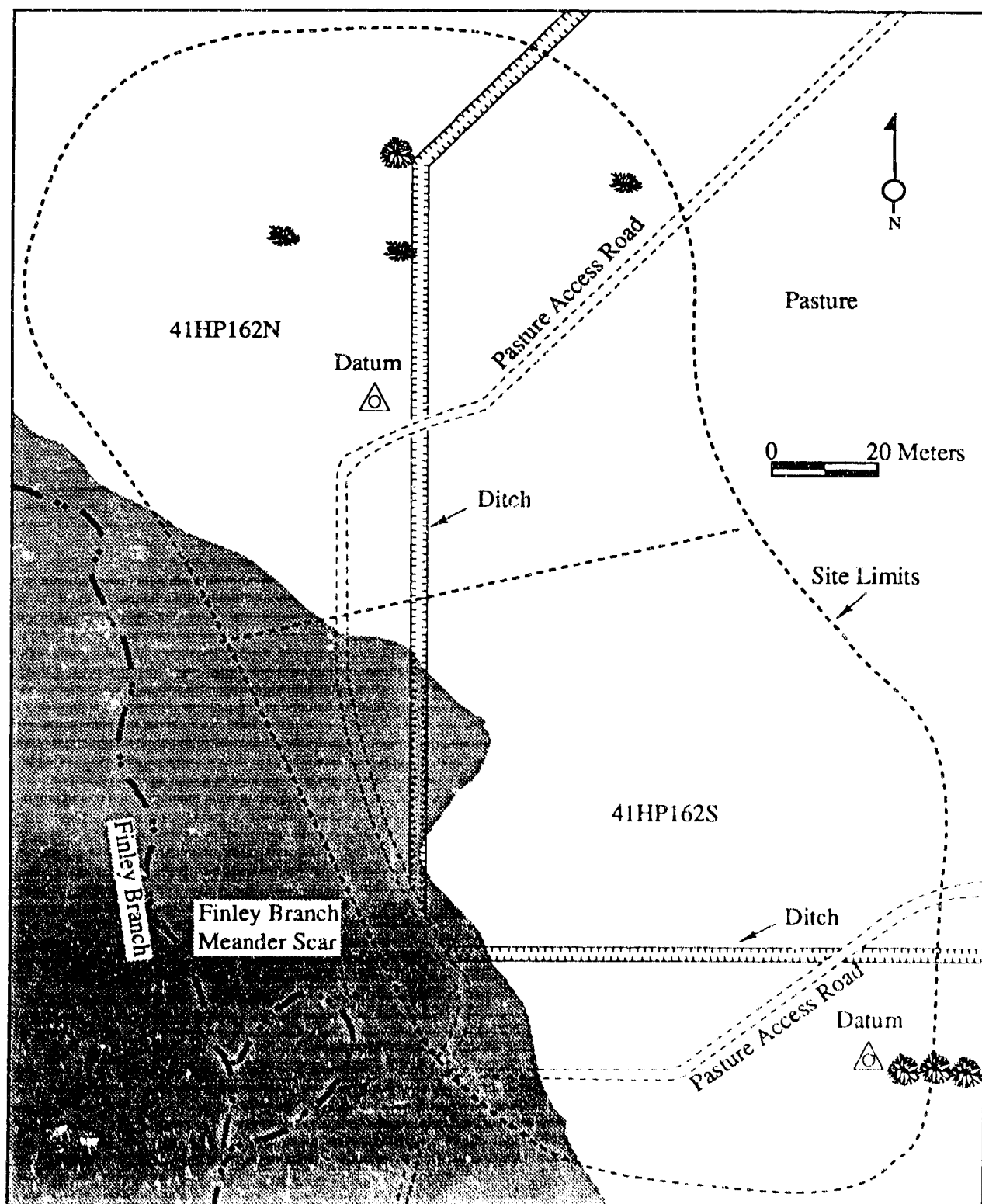


Figure 8-26. Plan of site 41HP162, showing its northern and southern portions and the location of artificial disturbances, surface features, and site limits.

1977:18-19), which is the same soil found at site 41HP159 and described in Chapter 6. In its native state, this area consisted of a floodplain forest dominated by oaks.

### *Stratigraphy*

Two natural soil strata were identified at site 41HP162. These are discussed from older (lower) to younger (upper).

Stratum I is a dark yellowish brown (10YR4/4) clay loam. It has a distinct upper boundary 0-50 cm below ground surface. Due to erosion and road construction, it is exposed in ca. 2% of the mapped site area. It is culturally sterile.

Stratum II is the surface soil horizon. It is a dark grayish brown (10YR4/1) silt loam. All cultural materials are assumed to be derived from this stratum.

### *Archaeological Investigations*

Site 41HP162 was originally discovered during backhoe testing of the entire valley wall and floodplain apron. This testing program, specified under the Scope of Work, was intended to be used for site discovery in areas where there

was a high potential for buried sites. The backhoe trenches (Figure 8-27) excavated at the site were for the most part unscreened and were intended to provide subsurface penetrations across the entire survey area.

Screening was performed when cultural materials were noted, as was the case at sites 41HP159, 41HP160, and 41HP175. This method was essentially a trade-off between the amount of area that had to be cleared and the cost/ time constraints of the project; any comprehensive screening program could not have been implemented while keeping the project within these constraints. The area containing 41HP162 is situated along the South Sulphur River Valley wall, where an immense volume of both colluvial and alluvial sediments has been deposited measuring up to at least 35 cm in thickness since historic settlement. Thus, this technique was used as a method for discovering distinct and obvious sites, and it is certain that low-density remains were unavoidably missed.

Both mechanical and controlled hand (screened) excavations were used to investigate selected portions of this site. After initial discovery of this site, further shovel testing revealed that occupation within the site



Figure 8-27. General view of site 41HP162, facing north. Note backhoe excavations in the central portion of the photograph and eroded areas in the foreground.

boundaries was not uniform in distribution. Based upon this information, the site was divided into a northern section (41HP162N) and a southern section (41HP162S). With one exception (see below), cultural materials were confined to the plowzone (Ap-horizon), and are therefore mixed.

Historic materials from both portions of the site (Table 8-3) consist of glass and metal items which appear to be related to the intense twentieth century cultivation of the area. Excavations in both portions of the site included 38 shovel tests and eight additional backhoe trenches which were dug in order to define the site's boundaries and structures. Prehistoric artifacts recovered from backhoe trenches and shovel tests included Gary dart points, lithic debitage, fire-cracked rock, and one ceramic sherd indicating a temporal span of occupation from the Late Archaic to the Late Prehistoric and Historic periods (Table 8-4). The results of our investigations at 41HP162 are described below by site locus.

#### 41HP162S

This southern portion of the site (Figure 8-28)

is located in a nearly level pasture, about 50 m east of Finley Branch. In all, 17 shovel tests were excavated by hand and screened, and an additional shovel test placed near the site datum was unscreened. Five backhoe trenches were used to determine the depth and extent of deposits in this area of the site. All surface features, primarily drainage ditches, roads, and tree lines, were mapped.

Cultural materials were recovered from BHTs 5 and 6 only. In BHT 5, three snuff bottle fragments were recovered from the plowzone. A hearth (Figure 8-29) was found in BHT 6. No diagnostic artifacts were recovered from this hearth. During the excavation of BHT 6, a concentration of fire-cracked rock was found at the interface between the Ap soil horizon and the underlying B-horizon. After discovery, no additional mechanical excavations were performed in this trench. This concentration of fire-cracked rock was designated Feature 1, which is described below.

*Feature 1:* This feature was discovered during excavation of BHT 6. It consisted of a concentration of fire-cracked rock measuring ca.

TABLE 8-3

Distribution of Historic Artifacts from Site 41HP162S,  
Delivery Order Number 6 Study Area

Unit	Depth (cm)	Stoneware	Other Vessel Glass	Misc.	Total
ST 1 N41 E0	0-68	1	-	1	2
ST 4 S0 W40	0-45	-	-	1	1
ST 6 S0 W20	0-47	-	-	2	2
BHT 6	20-30	-	3	-	3
Total	-	1	3	4	8

TABLE 8-4

Distribution of Prehistoric Artifacts from Site 41HP162, Delivery Order Number 6 Study Area

Unit	Depth (cm)	Flakes	Bifaces	Points	Fire-cracked Rock	Cobbles	Bones	Charcoal	Baked Clay	Total
<i>41HP162N</i>										
ST 1	0-42	5	-	-	-	-	-	-	-	5
ST 2	0-59	10	-	1	-	-	-	-	-	11
ST 3	0-50	8	-	-	-	-	-	-	-	8
ST 4	30	-	-	-	-	-	-	-	1	1
ST 5	30	1	-	-	-	-	-	-	-	1
ST 6	0-47	5	-	-	-	-	-	1	-	6
ST 7	0-62	1	-	-	-	-	2	-	-	3
ST 8	0-28	5	-	-	2	-	-	-	-	7
ST 9	0-50	3	-	-	-	-	-	-	-	3
ST 10	0-40	3	-	-	-	-	-	-	-	3
ST 12	0-40	1	-	-	-	-	-	-	-	1
ST 14	0-45	2	-	-	-	-	-	-	-	2
BHT 14	0-20	39	2	2	29	-	-	-	2	74
	Backdirt	12	-	-	4	-	-	-	-	16

Table 8-4 (cont.)

Unit	Depth (cm)	Flakes	Bifaces	Points	Fire-cracked Rock	Cobbles	Bones	Charcoal	Baked Clay	Total
<i>41HP162S</i>										
ST 5	0-50	1	-	-	-	-	-	-	-	1
ST 6	0-30	1	-	-	-	-	-	-	-	1
ST 8	0-80	1	-	-	-	-	-	1	-	2
ST 9	0-30	1	-	-	-	-	-	-	-	1
ST 12	0-27	3	-	-	3	-	-	-	-	6
ST 15	0-25	1	1	-	-	-	-	-	-	2
ST 16	0-15	1	-	-	-	-	-	-	-	1
BHT 4/5	Backdirt	2	-	-	-	-	-	-	-	2
BHT 5	0-36	-	-	-	-	2	-	-	-	2
Total	-	106	3	3	38	2	2	2	3	159



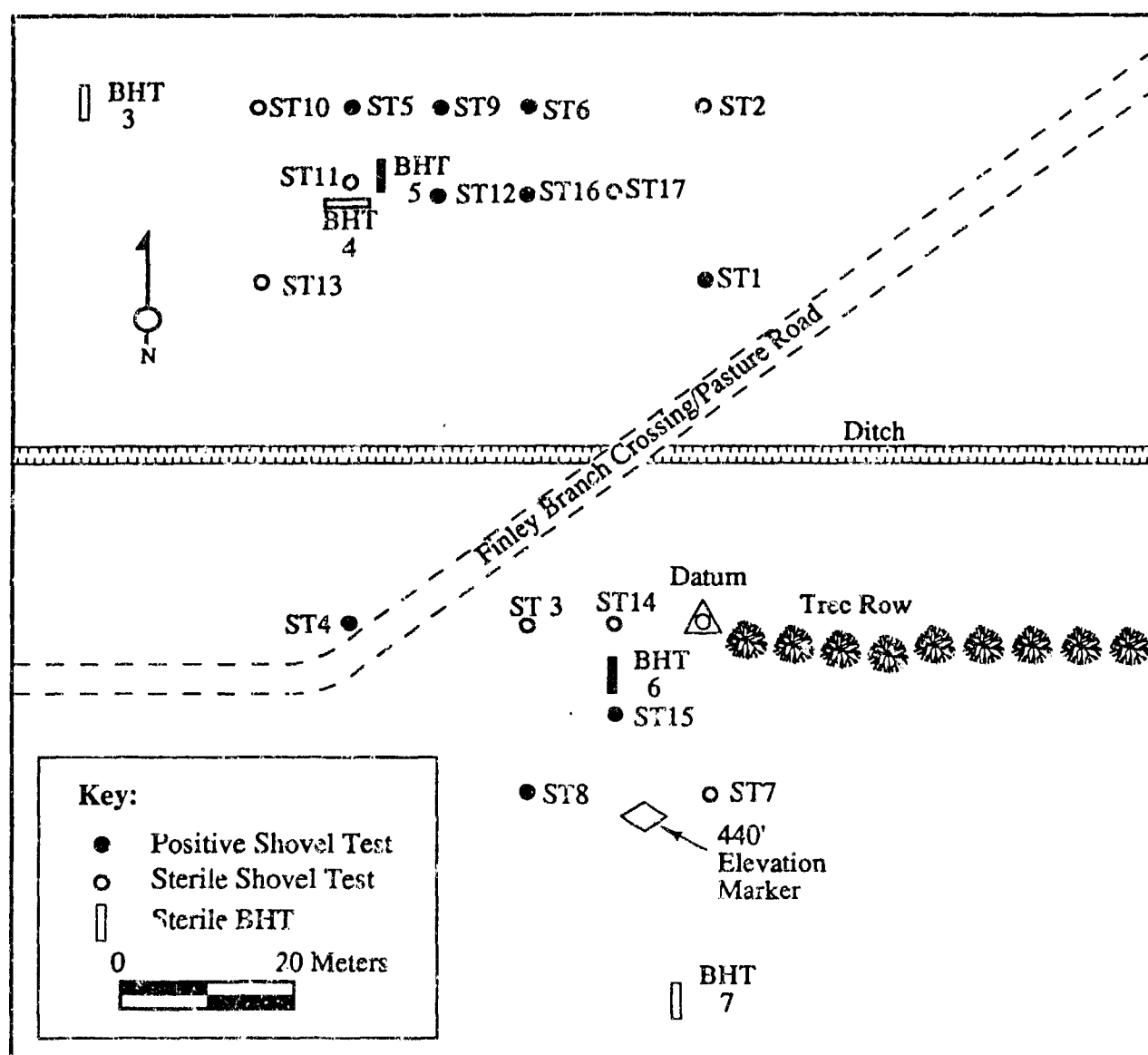


Figure 8-28. Plan of 41HP162S, showing the location of shovel test probes, backhoe excavations, and surface features (see Figure 8-26 for site limits).

55 cm x 65 cm in horizontal extent and 20 cm in thickness. The top of the feature occurred at 31 cm below ground surface, and extended to a maximum depth of 51 cm, into the underlying clay. No color or textural changes were observed that could be differentiated as feature fill. Based only on the location of fire-cracked rocks, the feature had an irregular shape, and was lens-shaped in profile. No artifacts other than fire-cracked rock were recovered from the feature. There was no charcoal present, since the feature had apparently been exposed for a long period of

time prior to its burial by alluvial and colluvial deposits. The site area had been intensively plowed and was close to the ground surface. Therefore, no humate samples were taken since the organic content of the soil has been altered and such samples would probably be contaminated.

#### 41HP162N

In all, 19 units were hand excavated (and screened) in this area of the site. An additional three backhoe trenches were used to aid in the

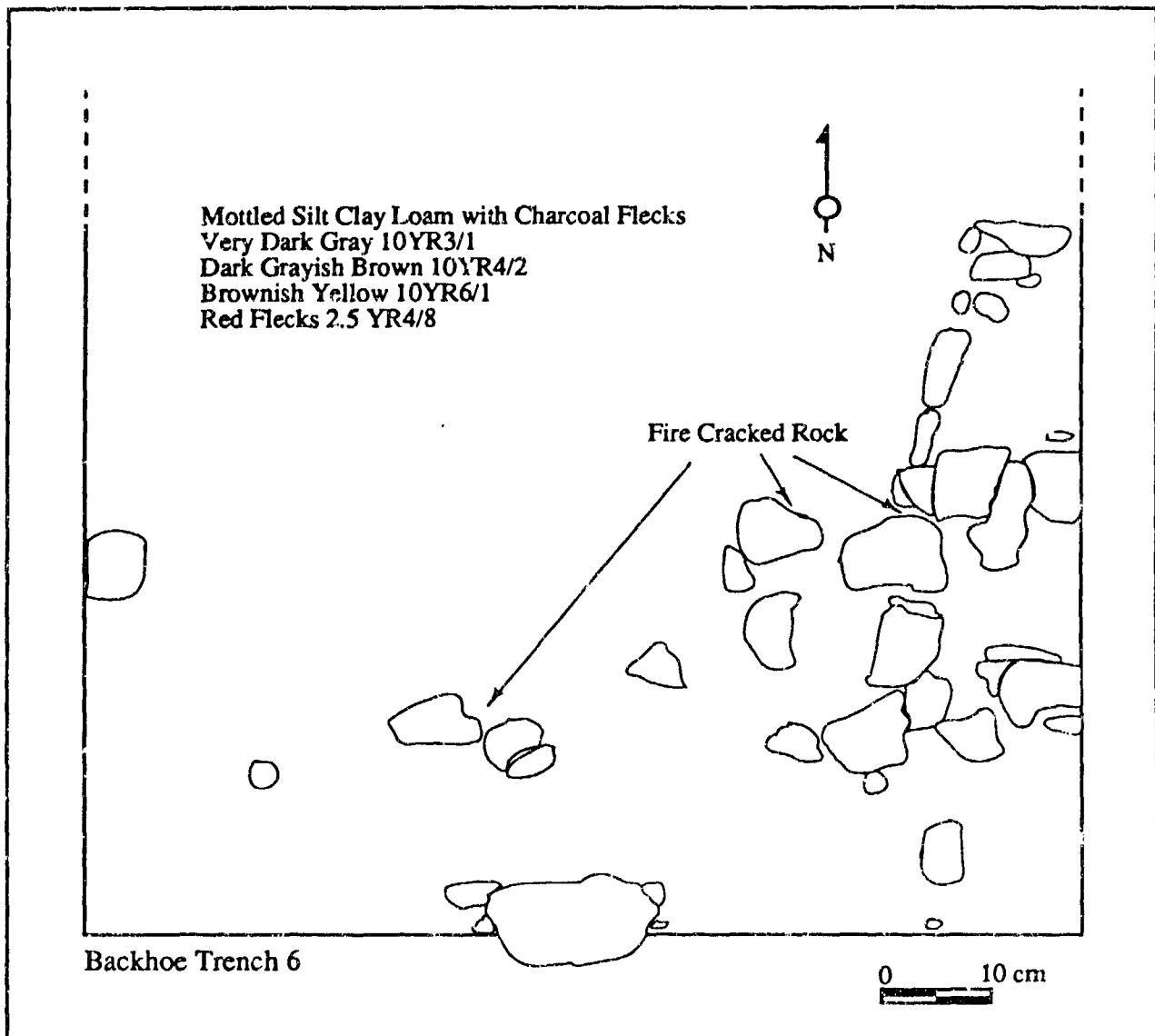


Figure 8-29. Plan view of excavations within BHT 6 at site 41HP162S, showing concentration of fire-cracked rock and soil coloration.

definition of site extent and the depth of the deposit. Modern disturbances such as the drainage ditch and road (Figure 8-30) were mapped in relation to the observed prehistoric materials.

A Gary dart point (Figure 8-31) was recovered from Shovel Test 2 in this northern area of the site, supporting the identification of a Late Archaic occupation. Other artifacts recovered include an additional Gary point and point midsection, one Kent point (see Figure 8-31), one biface, 46 whole flakes, 47 broken flakes, fire-cracked rock, unworked cobbles, baked clay, and one prehistoric pottery sherd (see Table 8-4).

### Recommendations

Analysis of artifacts from this site suggests that short-term occupations, possibly related to lithic procurement and hunting-gathering, occurred at all areas of the site. Artifact densities at the site are low, and there does not appear to be evidence for spatially discrete activity areas. Disturbance from land clearing and plowing has mixed both the Late Archaic and Late Prehistoric period occupations.

Site 41HP162 covers a broad area, and only those areas where the most concentrated cultural

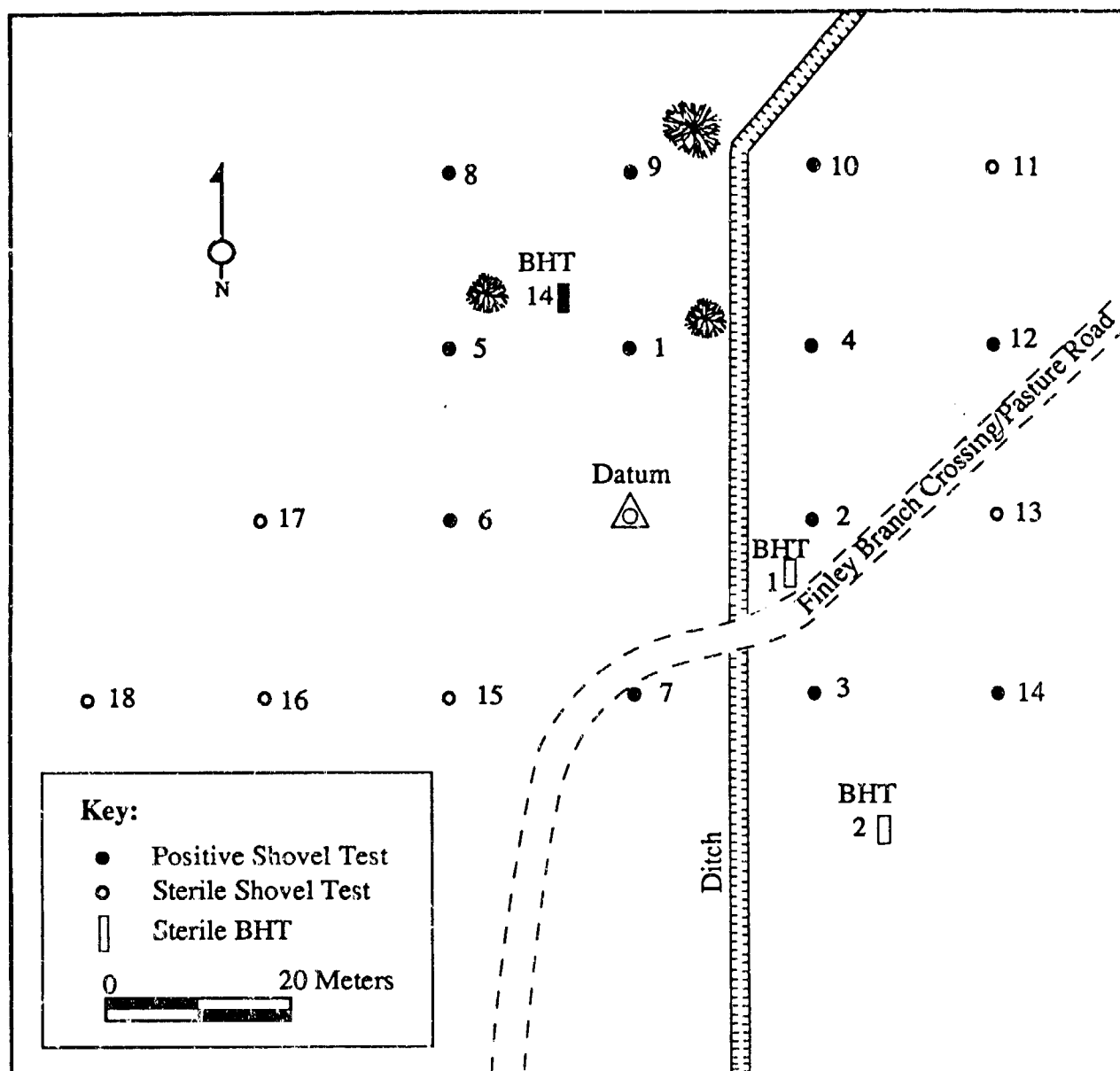


Figure 8-30. Plan of 41HP162N, showing the location of shovel test probes, backhoe trenches, and surface features (see Figure 8-26 for site limits).

materials were noted received test excavations. These excavations generally revealed shallow, low-density deposits. The backhoe excavations, however, identified a concentration of fire-cracked rock (possibly representing the remains of a hearth) which extended below the plowzone. Both historic and prehistoric artifacts are mixed within the archaeological deposits, indicating that the area has received deep and intensive cultivation during the Historic period. There is a low potential for the recovery of features. Some of these could have

been truncated by plowing, but others may have been buried below the plowzone. Although this site is not located within any construction zone or a proposed park, it is near the active erosion zone of the proposed floodpool and within vegetation clearance zones. Further work, such as the use of a grader to expose large areas in the search for buried features, may be necessary to determine its National Register eligibility. Therefore, the site is classified as Category II.



Figure 8-31. Projectile points from site 41HP162N, Cooper Lake Delivery Order Number 6 study area. Left-right: Gary dart point fragment (EU N25 W7, 0-20 cm), Gary dart point fragment (ST 2, 0-50 cm), Kent dart point fragment (EU N25 W7, 0-20 cm).

### Site 41HP163

Site 41HP163 is a newly recorded locus with historic and prehistoric components (Figure 8-32). The site is located along a ridge saddle at 152.4 m (500 ft) above msl in the uplands west of Buggy Whip Creek (see Figure 8-1). This site is located on a Bazette clay loam soil. In its native state, this as an upland forest dominated by oaks and was immediately adjacent to a slope forest consisting of mixed hardwoods.

A historic house is intact on the site. The entire site area is located on a non-aggrading land surface. Sheet refuse deposits dating to the middle and late nineteenth century are present in the southern portion of the site.

### Stratigraphy

Two soil strata were identified at site 41HP163. These are discussed in order from older (lower) to younger (upper).

Stratum I is the upper B soil horizon. It is a light olive brown (2.5Y5/4) clay with yellowish brown (10YR5/4) mottles. It is culturally sterile.

Stratum II is the surface soil horizon. It is a very dark grayish brown (10YR3/2) clay loam. All cultural materials (prehistoric and historic) were derived from this stratum.

### Archival Information

Site 41HP163 is located in the eastern portion of the B. Lucinder Survey (A-570). This is a 110 ha (272 acre) grant (enlarged to 112 ha [277 acres] by 1936) which was patented 3 May 1870 (Hopkins County Deed Book N:300).

Archival research indicates that the property containing 41HP163 was sold by Joseph Hadfield to W. T. Branum in May, 1892 (Hopkins County Deed Book 24:50). Mr. Branum owned the property until the 1936 WPA survey of the region. At the time of that survey, the property contained 90 ha (222 acres), including a tenant house built in 1929 and a barn built in 1930. In 1936, 0.4 ha (1 acre) was reserved for the house, 0.4 ha (1 acre) for the garden, 20 ha (50 acres) were in cultivation (5 ha [12 acres] in corn at 10 bushels per ha [25 bushels per acre]; 15.4 ha [38 acres] in cotton at 0.10 bales per ha [0.25 bales per acre]), 56.7 ha

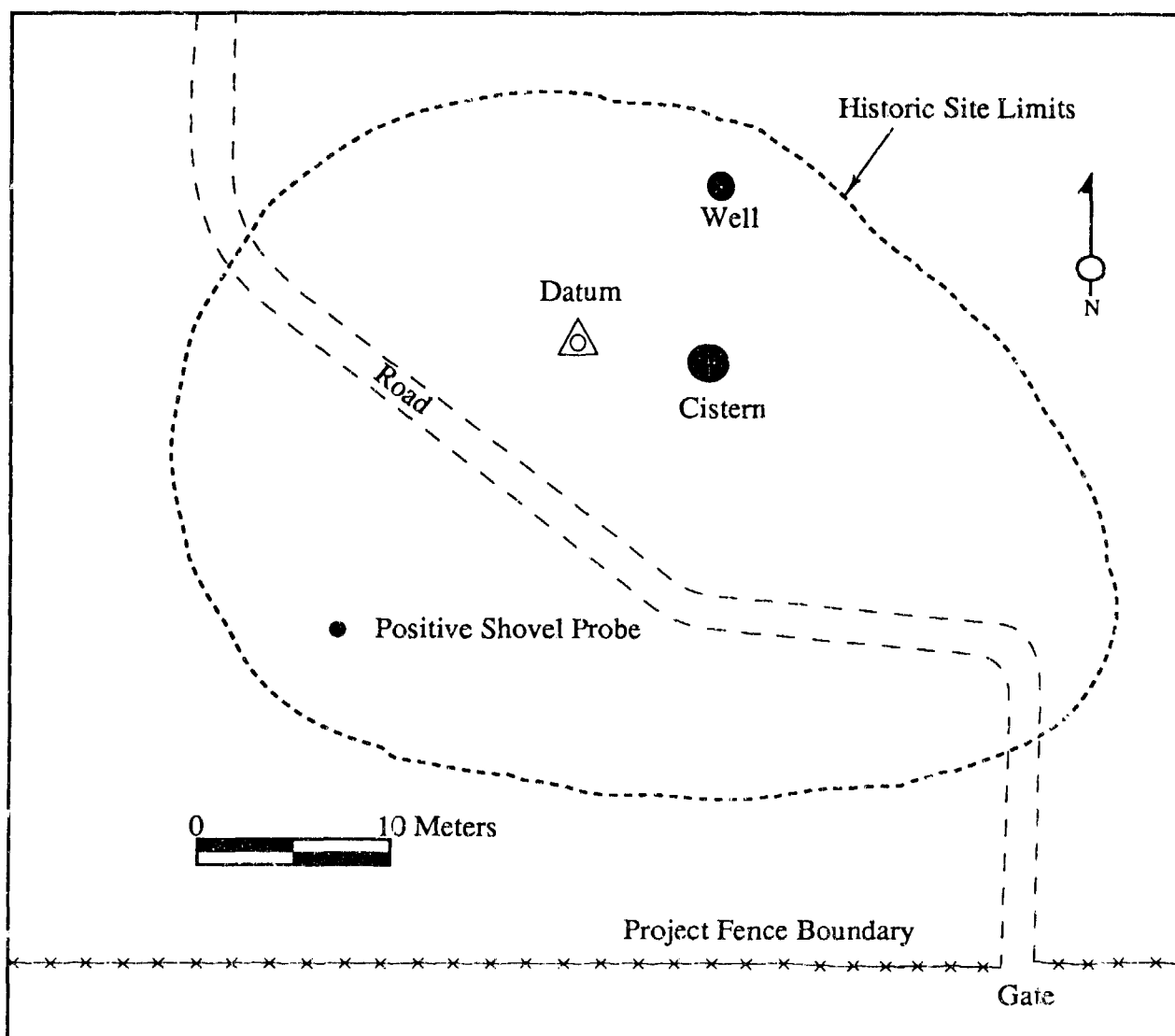


Figure 8-32. Plan of site 41HP163, showing the location of historic features and shovel tests (see Figure 8-1 for boundaries of the site's prehistoric component).

(140 acres) were pasture, 4 ha (10 acres) were meadow, and 6 ha (15 acres) were wasteland. The tract was leased to tenants on a third and fourth basis. Earlier occupation has not been documented. Informant interviews were conducted with local residents which indicate that the site was occupied by several tenant farmers in the 1930s, including Sherman, Willie, and Hardin Glossup.

#### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, and surface

collection. A permanent datum was placed on the site (see Figure 8-1 and Figure 8-32). Prehistoric artifacts ( $n=17$ ) include cores, bifaces, and flakes. The dominant artifact categories are broken flakes (47%), fire-cracked rock (23.5%), and whole flakes (7.6%).

Historic items include mid- to late nineteenth century (1850s-1860s) annular wares, bottle glass, and ironstones. A total of 36 items was recovered, comprised primarily of ceramics (60%), glass (26%), and architectural items (10%). A well and possible cistern or cellar are visible (see Figure 8-32). The ridge contains a dense natural deposit of gravels. The total exposed area of site 41HP163 is

ca. 600 m x 100 m (see Figure 8-1). The site may actually be larger and may include the site identified in 1970 as 41HP92. Ground visibility is poor, and this type of lithic extraction site is characterized by extreme dispersion of artifacts. Construction of a gas pipeline has disturbed the northern portion of the site.

### *Recommendations*

Although adequate informant and archival documentation exists for the site, its Historic period component does not appear to have potentially significant historic associations. The site's serial occupation and use has reduced the integrity of its archaeological deposits. The historic settlement can be related only to twentieth century tenant farming. The prehistoric remains have low potential to address the material culture and chronology questions outlined in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### **Site 41HP164**

This is a newly recorded prehistoric site located on a ridge crest and side slope of an interfluvial of Buggy Whip Creek (Figure 8-33). This site is located on Bazette clay loam at an elevation of 146.3 m (480 ft) above msl. The site was covered by hardwood forest in its native state. It has been clear cut in the past and was intensively cultivated. It is in fallow pasture and second-growth forest today.

### *Stratigraphy*

Two natural soil strata were identified at site 41HP164. These are discussed in order from older (lower) to younger (upper). Stratum I is derived from the weathering of the Kincaid Formation. It is a light olive brown (2.5Y5/4) clay with yellowish brown (10YR5/4) mottles. It is culturally sterile.

Stratum II is the surface soil horizon, which ranges in depth from 0-10 cm below ground

surface. It has been removed by erosion in ca. 1% of the site area. All cultural materials are assumed to be derived from this stratum.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, and shovel testing at 20 m intervals along the spine of the ridge. All shovel tests (25 cm x 25 cm x 10 cm) were sterile and indicated that only veneer deposits are present, with a discontinuous A-horizon soil and low potential for subsurface deposits. A permanent datum was placed on the site. The ground visibility at the site was poor, and artifact dispersion is estimated to cover an area of ca. 412.5 m x 250 m. Artifacts noted on the surface included flakes, tested cobbles, and bifaces. Only seven items were recovered, including four broken flakes, two whole flakes and one biface. The site is a lithic extraction area, presumably centered on the broad scatter of Uvalde gravels.

### *Recommendations*

The lack of temporal diagnostics does not provide sufficient data to characterize the site's material culture or chronological placement. Site 41HP164 is classified as clearly not eligible (Category III) for the National Register. Current information indicates that this site has low potential to address the chronological, subsistence, and settlement questions presented in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### **Site 41HP165**

This newly recorded prehistoric and historic site is located on the terminal end of a ridge spur which has been deeply incised by Buggy Whip Creek (Figure 8-34). The soil type is a Bazette clay loam. Site elevation is 134-137 m (440-450 ft) above msl. This area was an upland post oak forest in its native state. It has been cleared and intensively cultivated in the past, and is in fallow

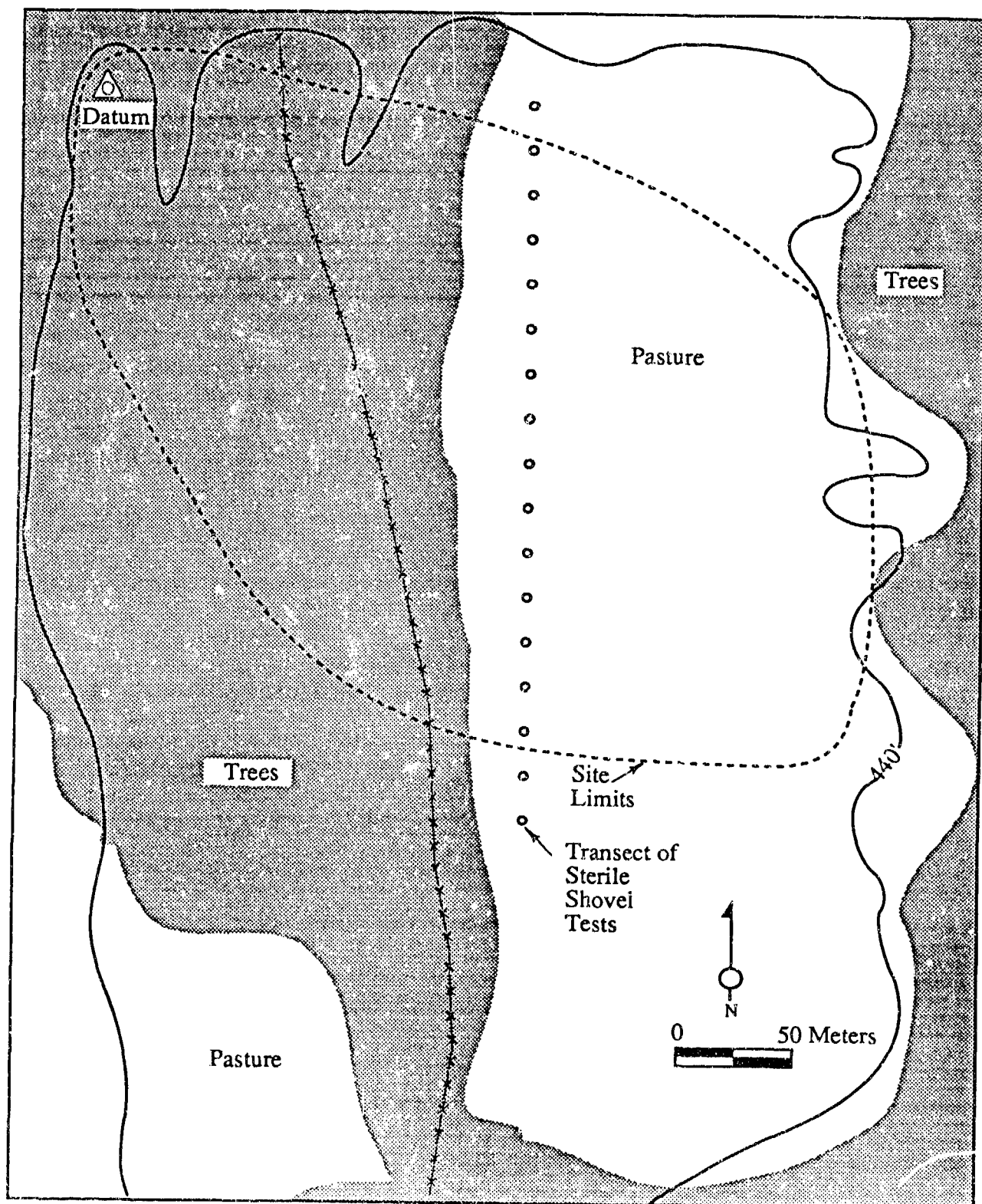


Figure 8-33. Plan of site 41HP164, showing the location of the site datum, the shovel test transect, and site limits.

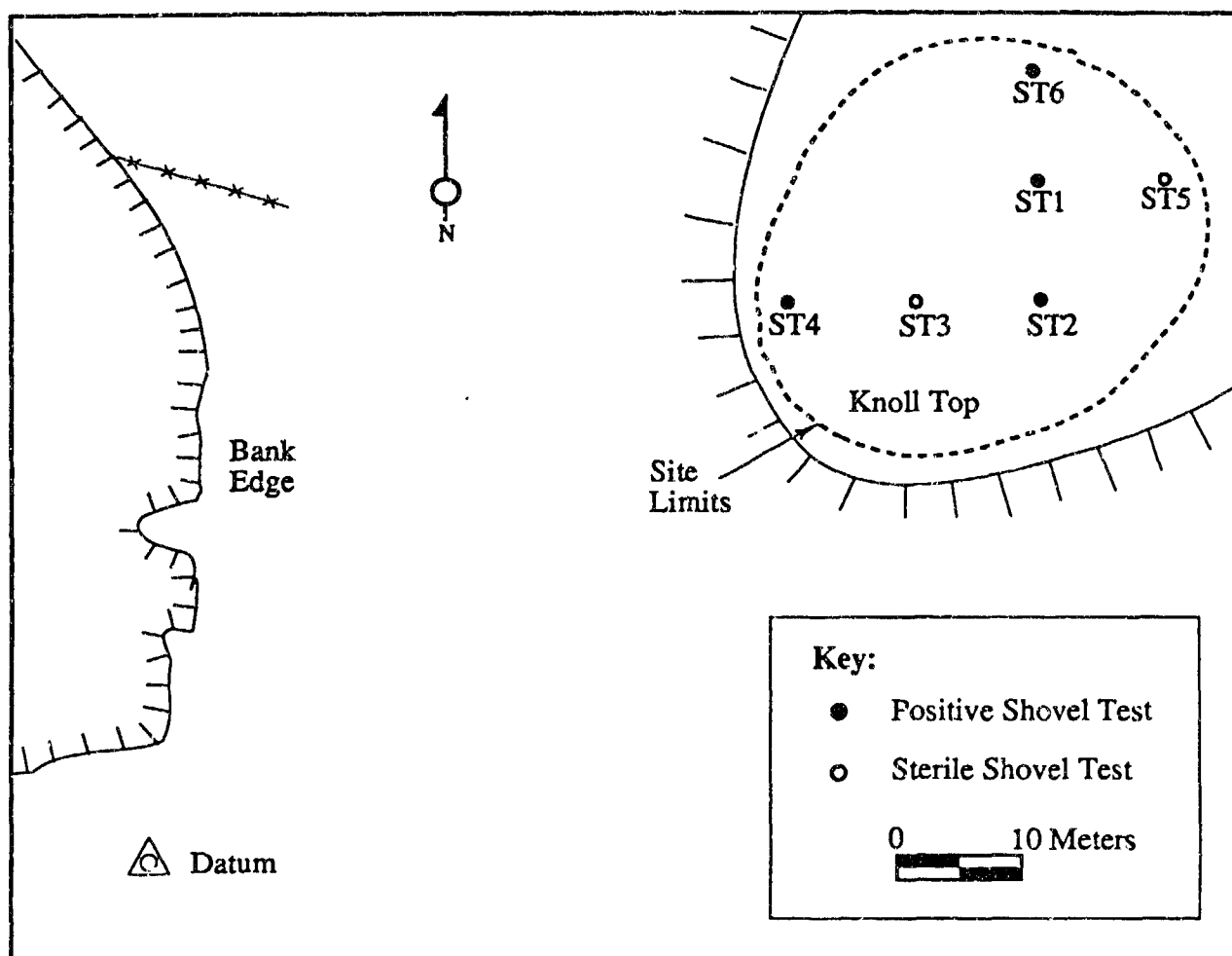


Figure 8-34. Plan of site 41HP165, showing the location of shovel tests and surface features.

field pasture with scattered second-growth timber today.

#### *Stratigraphy*

A single soil stratum was identified at site 41HP165. This is a very dark grayish brown (10YR3/2) clay with yellowish brown (10YR5/4) mottles. This is the upper B soil horizon.

#### *Archival Information*

Site 41HP165 (along with 41HP166 and 41HP167) is located on the Merritt Branum (A-70) Survey. This 129.5 ha (320 acre; enlarged to 132.8 ha [328.05 acres] in 1936) survey was patented to L. H. Harmon on 17 March 1862

(Hopkins County Deed Book H:105). In 1936, the 12.2 ha (30.2 acre) tract containing site 41HP165 was owned by John Campbell, who purchased the tract, along with an additional 45.5 ha (112.5 acres) in other tracts, on 7 February 1924 for \$1,100.00 (Hopkins County Deed Book 115:63). In 1936, the 12.2 ha (30.2 acre) tract was in total cultivation, with cotton yielding 0.10 bales per ha (0.25 bales per acre), and was worked by the owner.

John Campbell was reported to have lived at both sites 41HP165 and 41HP166. Sites 41HP165, 41HP166, 41HP167, 41HP169, and 41HP170 comprised a small cluster of tenant and landowner homes on the Campbell farm, east of Buggy Whip Creek, which were serially occupied (e.g., see 41HP158A).



**Archaeological Investigations**

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, and shovel testing. A permanent datum was placed southwest of the site (see Figure 8-34). A total of six shovel tests spaced at 10 m intervals were excavated. Ground visibility was 50%, and both prehistoric and historic artifacts were noted on the surface. Historic items include bottle glass and twentieth century brick fragments, which may represent dumping activities or may be a short-term twentieth century farm site (Table 8-5). A total of 20 historic items were recovered, 50% of which were glass. Other items included three stoneware fragments, two plain ironstone/whitewares, and one decorated ironstone/whiteware sherd.

The prehistoric component may represent a camp or tool refurbishing area. A total of 20 items were recovered from the shovel tests, primarily including whole flakes (45%) and broken flakes (20%). Other prehistoric items collected from the surface include 33 fire-cracked rocks, two unworked cobbles, one uniface, and one biface. The historic and prehistoric materials were intermixed, indicating the site's past cultivation.

**Recommendations**

Site 41HP165 is deemed not eligible (Category III) for the National Register. The prehistoric material remains have been disturbed and have low potential to address the material culture and chronological research questions. The historic archaeological deposits represent serial occupations by landowners and/or tenants dating between 1936 and 1970. Archival and informant information indicate that the site is not associated with important local people or events. The site has low potential to address the material culture, socioeconomic, and settlement research questions of the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

**Site 41HP166**

Site 41HP166 is a multicomponent historic/prehistoric site (Figure 8-35) which is located on a broad ridge overlooking the South Sulphur River Valley. It is situated ca. 140-143 m (460-470 ft) above msl on the juncture between Bazette clay loam (5-12% slopes) and Ellis Clay (5-12% slopes) soils. The native vegetation

TABLE 8-5

Distribution of Historic Artifacts from Site 41HP165,  
Delivery Order Number 6 Study Area

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Vessel Glass	Other Vessel Glass	Brick	Misc.	Total
ST 1	0-10	-	-	1	1	-	1	3
ST 2	0-10	-	1	-	2	-	-	3
ST 4	0-20	2	2	-	1	-	-	5
ST 6	0-10	-	-	-	-	4	-	4
Surface	0	-	-	1	4	-	-	5
Total		2	3	2	8	4	1	20

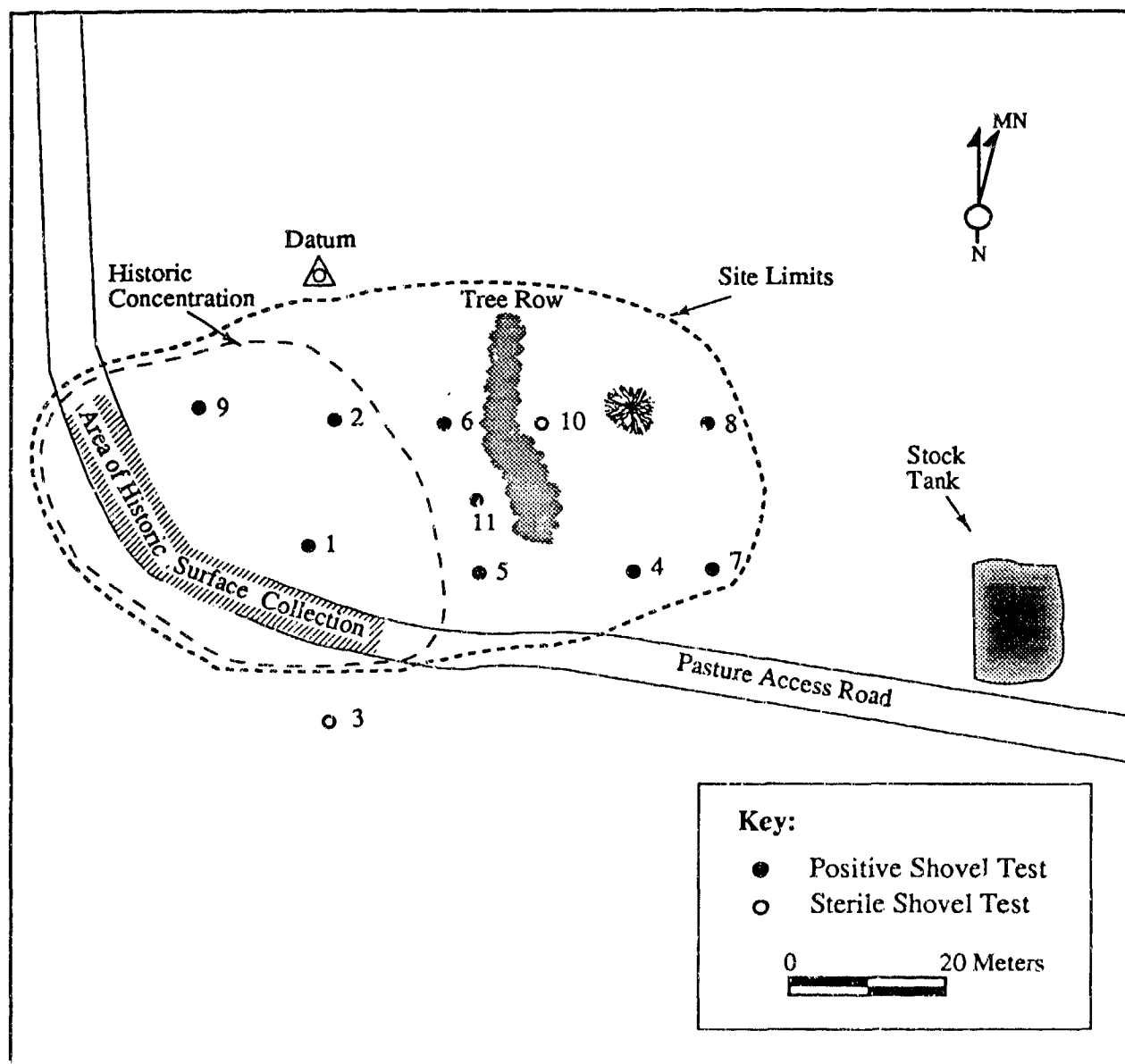


Figure 8-35. Plan of site 41HP166, showing the location of surface features, the surface artifact concentration, shovel tests, and site limits (as defined by positive shovel test probes and surface artifact distribution).

consisted of an oak-hickory forest on the north-facing valley wall, over a floodplain forest of mixed hardwoods. It has been cleared in the past and intensively cultivated. Today it is in fallow field pasture.

### Stratigraphy

Two natural soil strata were identified at site 41HP166. These are discussed in order from older

(lower) to younger (upper).

Stratum I is a light olive brown (2.5Y5/4) clay with yellowish brown (10YR5/4) mottles. It has a clear, wavy upper boundary which ranges in depth 0-15 cm below surface, with a near depth of 8 cm below ground surface. Prehistoric and historic artifacts (flakes, fire-cracked rocks, glass, ceramics, and cut nails) were recovered from the upper 5 cm of this stratum.

Stratum II is the surface soil horizon. It has

been removed by erosion and traffic across the roadway which runs through the site. The majority of cultural materials (prehistoric and historic) were recovered from this stratum.

### *Archival Information*

Site 41HP166 is located in the Merritt Branum Survey (see site 41HP165). The WPA records indicate the site's Historic period component may date back to 1902, when initially occupied by John Campbell, and that it underwent serial occupations thereafter. In 1936 this site was on a 25 ha (61.6 acre) tract owned by Mrs. Lizzie Coker, who lived on the site. She obtained this land through inheritance on 4 October 1922 (Hopkins County Deed Book 112:81). In 1936, 0.4 ha (1 acre) was reserved for the home, and 0.4 ha (1 acre) for the garden, with 20 ha (50 acres) in cultivation (5 ha [12 acres] in corn at 10 bushels per ha [25 bushels per acre]; 15.4 ha [38 acres] in cotton), and 3.9 ha (9.6 acres) in woodland. This was poor cotton land, yielding 0.10 bale per ha (0.25 bale per acre), and all 20 ha (50 acres) in cultivation were in need of terracing. The dwelling was described as a four-room shack, measuring 25 ft x 25 ft, built in 1902. A single 12 ft x 28 ft barn, also built in 1902, was present.

### *Archaeological Investigations*

Fieldwork conducted at this site included close interval (5 m) pedestrian survey, mapping of artifact distributions and surface features, and photography. Eleven units were excavated and a permanent datum was placed on the site (see Figure 8-35). In addition, surface collections were made along the existing road.

Historic artifacts were recovered from only two of the eleven excavation units (Units 2 and 9; Table 8-6). The majority of historic items were collected from the surface. The historic artifact assemblage consisted of 25 items, and was dominated by ironstone-whitewares (36%) and stonewares (36%). Bottle glass (16%), cut nails (8%), and flat metal (4%) rounded out the assemblage. Distinctive items included light relief molded ironstones dating to ca. 1880-1890, and a pre-1910 snuff bottle.

Prehistoric artifacts were recorded from nine of the 11 shovel tests (Units 1, 2, 4, 5, 6, 7, 8, 9, 11). In all, 76 artifacts were recovered from these units, and 18 from surface collections. The majority of the prehistoric materials were recovered from two shovel tests, ST 6 (n=30) and ST 4 (n=21). No historic items were present in either unit. The prehistoric assemblage from both surface and subsurface contexts was dominated by flakes (60%) and unmodified cobbles (23%). Six bifaces (6%), five cores (5%), two modified flakes (2%), and two grog and bone tempered grit paste, plain-surfaced ceramic body sherds (2%; see Appendix B) rounded out the assemblage.

### *Recommendations*

The prehistoric component may have been related to brief encampments and initial stages of lithic reduction. The prehistoric component at site 41HP166 appears to reflect brief encampment and activities related to the initial reduction of lithic material, probably during the Late Prehistoric period. The Historic period occupations indicate serial use during the late nineteenth and twentieth centuries.

The serial (prehistoric and historic) occupations on this non-aggrading landform may have disturbed the integrity of the archaeological deposits at site 41HP166, although the results from shovel testing indicate that some discrete, unmixed deposits may remain. Further data recovery of the prehistoric materials could yield redundant information on Late Prehistoric occupations. The historic context of the site is related to a land division in the Campbell family. However, the archaeological deposits would, in all likelihood, yield redundant chronological and material culture data. The site is therefore classified as Category III, and no further work is recommended at this time.

### *Site 41HP167*

This newly recorded prehistoric and historic site (Figure 8-36) is quite extensive (over 14,000 m<sup>2</sup> in area), and covers the upper portion of a ridge overlooking the South Sulphur River Valley. The soil type is a Bazette clay loam at 152.4 m

TABLE 8-6

Distribution of Historic Artifacts from Site 41HP166,  
Delivery Order Number 6 Study Area

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Vessel Glass	Other Vessel Glass	Cut Nails	Misc.	Total
ST 2	0-10	-	-	-	3	2	1	6
ST 9	0-24	-	1	-	-	-	-	1
Surface*	0	9	8	1	-	-	-	18
Total	-	9	9	1	3	2	1	25

\* All surface artifacts were recovered from the site's knoll top area except two refined earthenware sherds from the road.

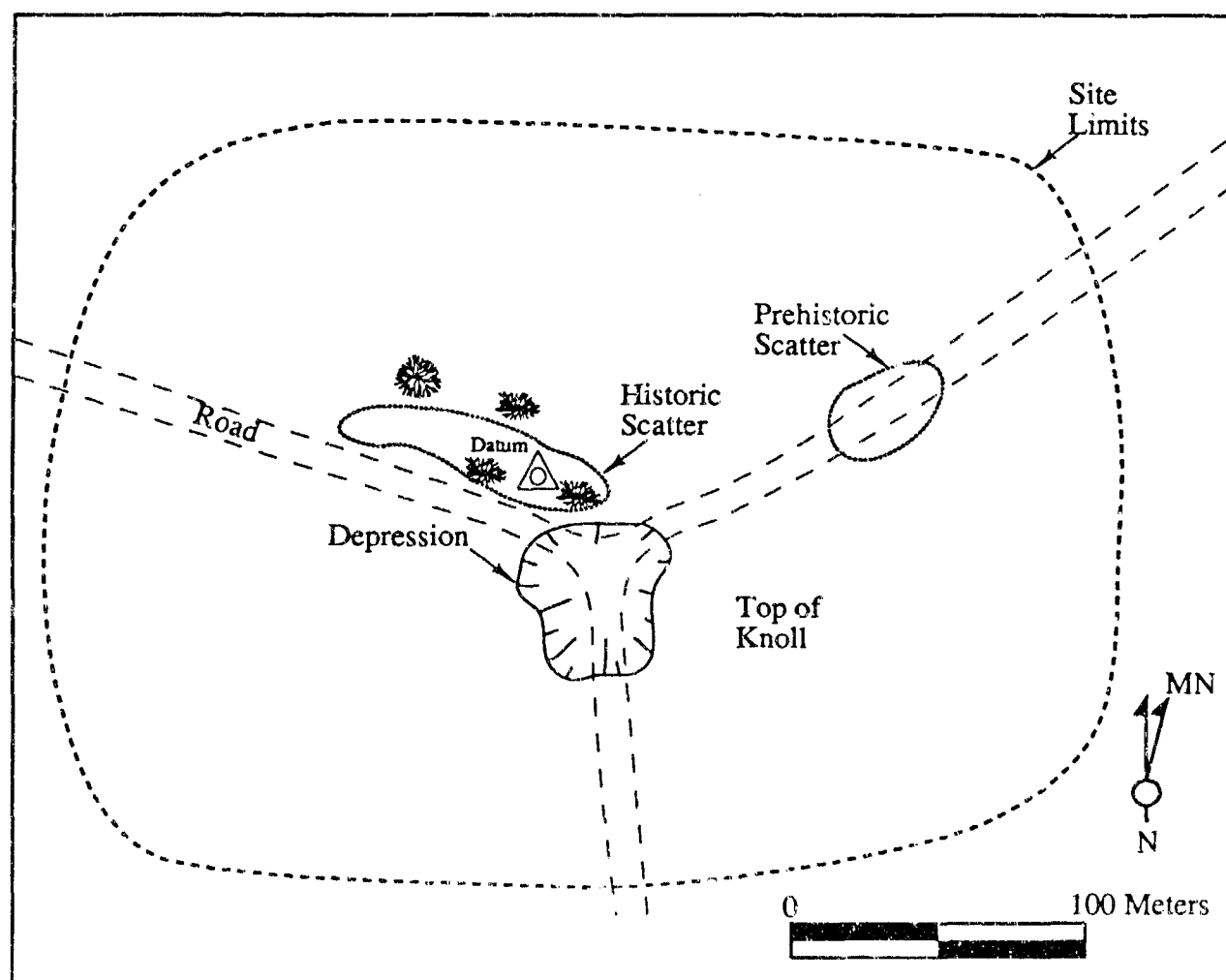


Figure 8-36. Plan of site 41HP167, showing the location of surface features, site limits, and surface artifact scatters.

(500 ft) above msl. In its native state, this area consisted of upland forest. It has been cleared in the past, and is in fallow pasture today.

### *Stratigraphy*

Two natural soil strata were identified at site 41HP167. These are addressed in order from older (lower) to younger (upper).

Stratum I is a light olive brown (2.5Y5/4) clay which is continuous across the site. It is exposed by erosion within and adjacent to the roadbeds crossing the site (see Figure 8-36), comprising ca. 10% of the site area. Cultural materials have been incorporated into this stratum by cultivation and vehicular traffic. The large depression in the center of the site is a deep mudhole in wet weather.

Stratum II is a very dark grayish brown (10YR3/2) clay loam. It is the surface soil horizon, which has been plowed in the past. All cultural materials (prehistoric and historic) are assumed to be derived from this stratum.

### *Archival Information*

Site 41HP167 is located in the M. Branum Survey (see 41HP165). In 1936, it was an 34 ha (84-acre) tract which was owned by Mrs. Lola Couch of Hugo, Oklahoma. She had obtained the tract through an inheritance from the Campbell estate on 13 January 1923 (Hopkins County Deed Book 112:341). She leased the farm to tenants. In 1936, 0.2 ha (0.5 acre) was reserved for the home, 0.2 ha (0.5 acre) for the garden, 16.2 ha (40 acres) were in cultivation (5 ha [12 acres] in corn producing 4 bushels to the ha [10 bushels to the acre]; 12.5 ha [31 acres] in cotton at 0.10 bale per ha [0.25 bale per acre]), and 17.4 ha (43 acres) were pasture. A four-room residence (28 ft x 28 ft) and a 32 ft x 40 ft barn, both built in 1910, were also present in 1936.

Local informants report that this site was occupied by Lola Couch in the 1920s. They recall that she had purchased the land from Willie Campbell, heir of Andrew Campbell. However, as shown above, she was actually an heir to the Campbell estate.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, and surface collection. A permanent datum was placed on the site (see Figure 8-36). Twenty-three prehistoric artifacts, including flakes, cores, and bifaces were recovered. Fire-cracked rock (33.9%), broken flakes (28.5%) and whole (26.7%) flakes were the dominant categories. Other categories included unifaces (5.3%), unworked cobbles (3.5%), and cores (1.7%). The prehistoric component represents a tool refurbishing base camp or lithic reduction area.

Historic artifacts related to domestic occupation were recovered from within a 1,000 m<sup>2</sup> area, but extend along the roads as well. Late nineteenth and twentieth century ironstones/whitewares, bottle glass, brick, and metal were present. These items include plain ironstone/whiteware, stoneware, table glass, bottle glass, cut nails, and a file.

### *Recommendations*

Although the site contains late nineteenth century material whose context may be supplemented by informant data, mid-twentieth century occupations and current land-use practices have greatly altered its archaeological integrity. The site is deemed clearly not eligible (Category III) for the National Register. Current data indicates that it has low potential to address the prehistoric material culture and chronological questions presented in the Research Design. Archival and informant researches indicate the site was a farm inherited within the Campbell family. Structures at the site were built ca. 1910. The farm was leased to tenants from the 1920s to the 1930s, and probably even longer. It was abandoned in the 1970s. It is likely that the site's archaeological deposits would yield redundant information on the material culture and chronological questions outlined in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

### The Appliance Site (41HP168)

This prehistoric site consists of a light surface scatter of flakes and fire-cracked rock. It is located on Nahatche clay loam at 131 m (430 ft) above msl. In its native state, this area was a mixed hardwood forest in the floodplain. The area has been clear cut and intensively cultivated in the past, and is fallow field pasture today. The stream has been channelized and a levee constructed, possibly ca. 1914-1915, south of the site (Figure 8-37).

#### Stratigraphy

A single soil stratum was identified at site 41HP168. This is a dark yellowish brown (10YR4/4) clay loam. It was excavated to a maximum depth of 2.0 m below ground surface. Dispersed fragments of wood (*Quercus* sp.) charcoal were present through this profile. A large limb, 150-168 cm below ground surface, yielded a radiocarbon date (dendrochronological years calibrated) of A.D. 1383  $\pm$  156 (567  $\pm$  156 B.P.; SMU-2287). The ca. 1963-1973 aerial photographs (Lane 1977) indicate that a levee was constructed south of the site. It is possible that deep excavations were made in the vicinity of the site, which have been infilled by more recent sediments.

#### Archaeological Investigations

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, shovel testing, and backhoe excavations (see Figure 8-37). A total of eight sterile shovel tests was excavated at 10 m intervals across the site, confirming that extremely low-density remains are present and that the site area is relatively limited. Thirty-five items were recovered from surface contexts. Broken (31.4%) and whole (25.7%) flakes are the dominant artifact classes, followed by cores (14.3%). Whole points, unworked cobbles, and bifaces (5.8% each) and broken points, unifaces, ground stone, and fire-cracked rock (2.8% each) round out the assemblage. A Late Archaic Gary point and one

untyped dart were recovered from the surface (Figure 8-38). The site deposits have been partially disturbed by levee construction, and a park boat ramp is proposed. A permanent datum was placed on the site.

Despite the culturally sterile subsurface shovel tests, backhoe testing did discover a burned area 180 cm below the ground surface. This work consisted of the excavation of a single 2.2 m x 2.2 m backhoe trench (BHT 91; see Chapter 6, this report). Encroaching groundwater prevented further excavations at the time. The backhoe trench was enlarged with three additional trenches (BHT 92, BHT 92a, BHT 92b; see Chapter 6), measuring 3.9 m x 1.68 m, 2.0 m x 0.8 m, and 2.0 m x 0.8 m, respectively. Although no cultural materials were revealed by these excavations, wood charcoal was recovered.

Two radiocarbon samples have been submitted to determine the age of the landform and sediments. A specimen from 124 cm below ground surface yielded a modern date of A.D. 1865  $\pm$  91 (85  $\pm$  91 B.P.; SMU-2291), and a specimen from the 150-168 cm below ground surface level yielded a date (dendrochronological years calibrated) of A.D. 1383  $\pm$  156 (567  $\pm$  156 B.P.; SMU-2287). Project geomorphologist S. Christopher Caran examined the deposits at site 41HP168 and indicated that the subsurface burned area probably relates to disturbance from the twentieth century channelization (S. Christopher Caran, personal communication 1989). The site's homogeneous sediments (see Stratigraphy, above) are interpreted to be recent.

#### Recommendations

Due to the lack of deeply buried cultural deposits and/or features, this site has low potential to address the chronological or material culture questions presented in the Research Design. Site 41HP168 is clearly not eligible (Category III) for the National Register. The historic disturbances, including levee construction, have reduced the site's potential to yield significant paleoenvironmental data. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

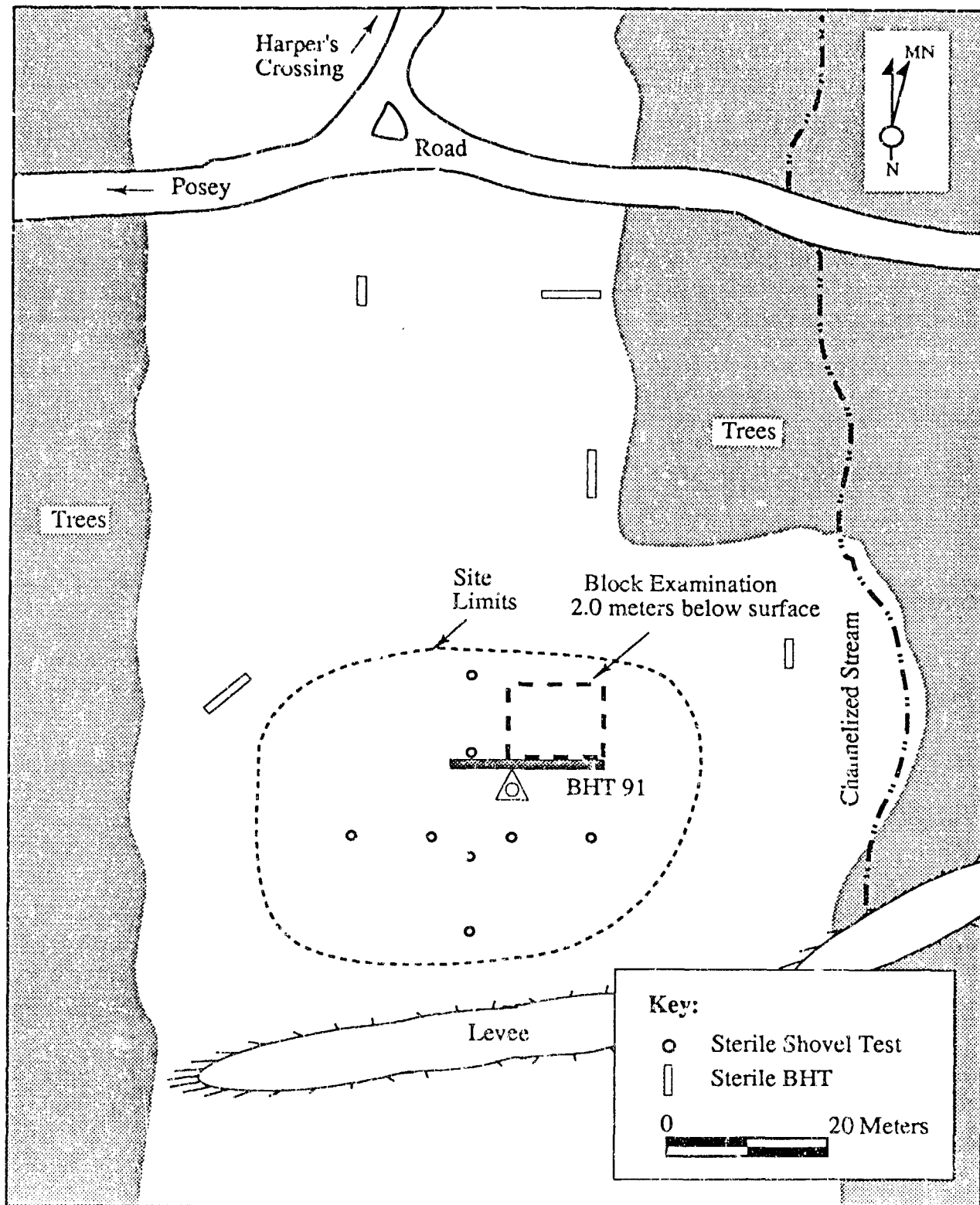


Figure 8-37. Plan of site 41HP168, showing the location of sterile backhoe trenches and shovel probes, the block examination, and site limits.

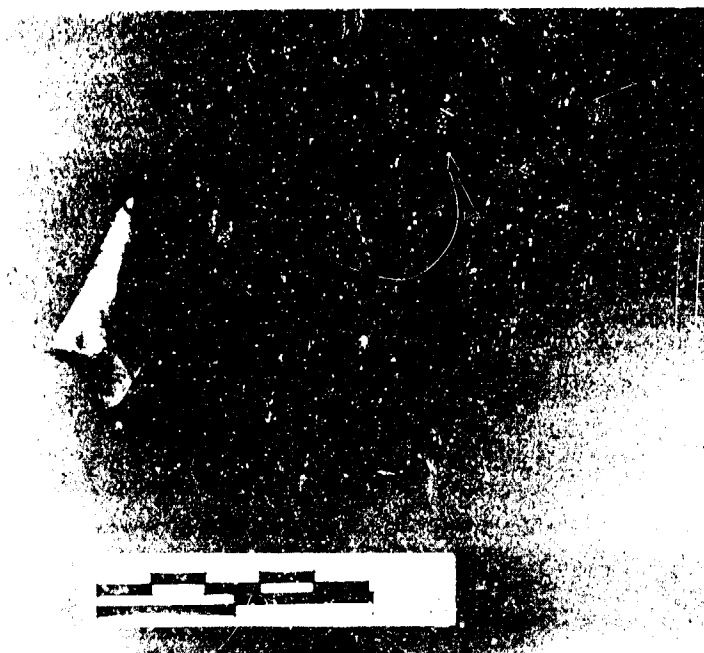


Figure 8-38. Projectile points from site 41HP168, Cooper Lake Delivery Order Number 6 study area. Left-right: Gary dart point (surface), untyped dart point fragment (surface).

#### Site 41HP169

This historic site is located on the old Bonham to Jefferson Road, at the terminus of a ridge spur (Figure 8-39). The site is located on eroded Ellis clay, 5-12% slopes, at 131 m (430 ft) above msl. In its native state, this was a mixed hardwood slope forest. It has been cleared and cultivated in the past, and is in fallow pasture today.

#### *Stratigraphy*

Two natural soil strata were identified at site 41HP169. These are discussed in order from older (lower) to younger (upper).

Stratum I is a light olive brown (2.5Y5/4) clay with brownish yellow (10YR6/6) mottles. It is horizontally continuous across the site, and is exposed ca. 2% of the site area by gully erosion.

Stratum II is the surface soil horizon. It is a dark grayish brown (2.5Y4/2) clay. All cultural materials are assumed to be derived from this stratum.

#### *Archival Information*

Site 41HP169 (along with 41HP170) is located within the George Birdwell (A-67) Survey. The patent for this survey was not present in the Hopkins County Courthouse. This is a 259.3 ha (640.6 acre) tract, over 60% of which was owned by mortgage companies in the 1930s.

In 1936, site 41HP169 was located on the boundary between a 1.2 ha (3 acre) tract belonging to John Campbell of Sulphur Springs and a 12.7 ha (31.4 acre) tract owned by Lizzie Coker of Birthright. Campbell inherited the tract on 7 February 1924 (Hopkins County Deed Book 115:63). All 1.2 ha (3 acres) were used for woodland.

Lizzie Coker inherited her 12.7 ha (31.4 acre) tract and paid a titular \$1.00 fee for it on 7 February 1924 (Hopkins County Deed Book 115:59). In 1936, the 12.7 ha (31.4 acre) tract had 0.2 ha (0.5 acre) reserved for the home, 0.2 ha (0.5 acre) for the garden, 7 ha (17.4 acres) in cultivation (2 ha [5 acres] in corn at 10 bushels per ha [25 bushels per acre]; 5 ha [12.4 acres] in



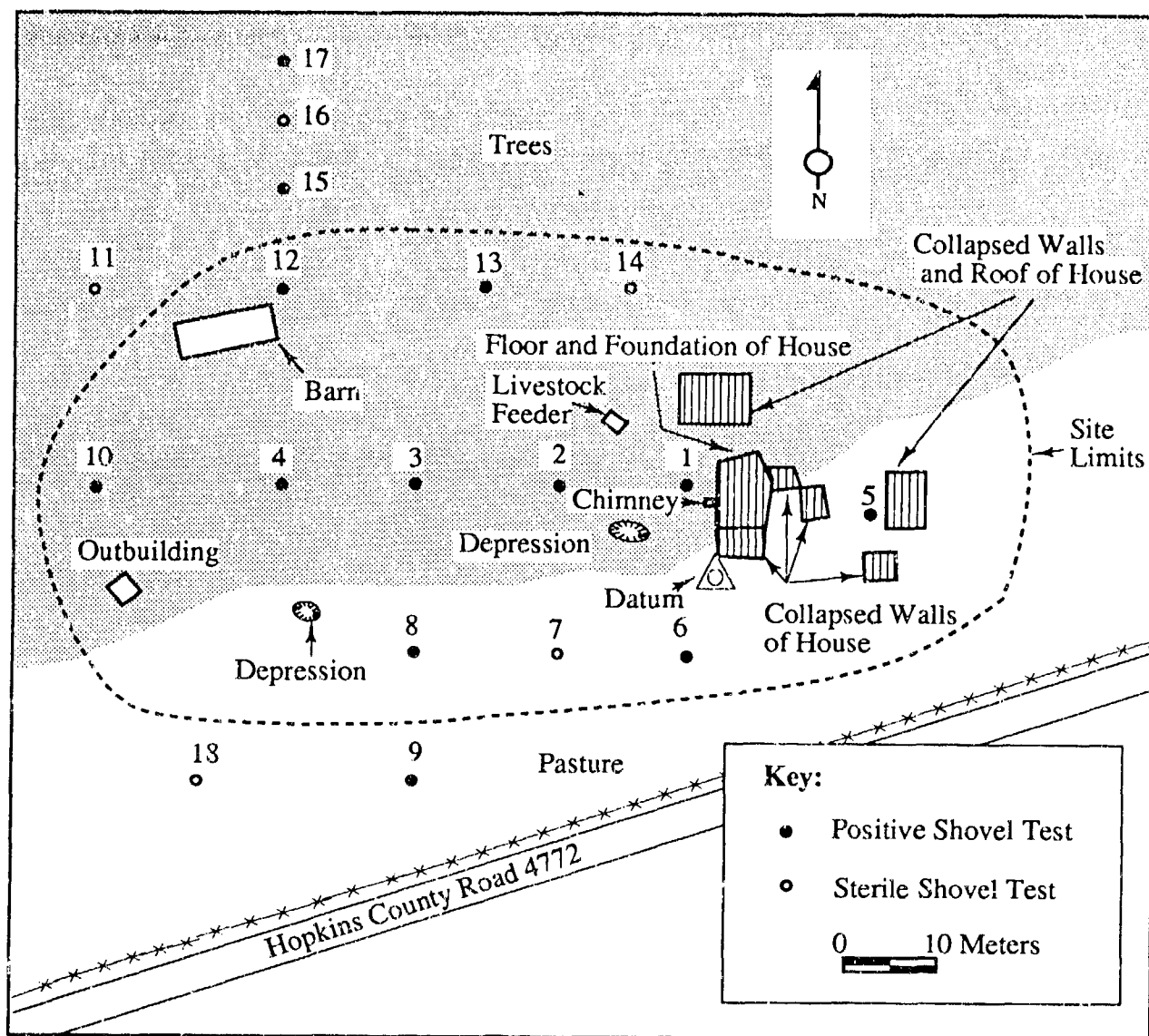


Figure 8-39. Plan of site 41HP169, showing the location of shovel tests, structural remains, surface features, and site limits (as defined by positive shovel probes and surface remains).

cotton at 0.10 bushel per ha [0.25 bushel per acre]), 4 ha (10 acres) in pasture, and 1.2 ha (3 acres) in wasteland. It was leased to tenants. The single structure noted on site during the present investigations is a collapsed shack (built ca. 1921).

This site was reported to have been owned by John Campbell, who inherited the land from his mother (widow of Andrew Campbell) in the 1920s. The 1936 tax survey indicates that this land, then owned by Coker, was leased to tenants.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, and shovel testing (see Figure 8-39). A total of 18 shovel tests was excavated to determine whether older historic materials were present, and to determine site boundaries. A permanent datum was placed on the site.

Structures identified include a collapsed dwelling (as indicated by large sawn post oak sills, pine lumber, wire nails, and machine-made brick), outbuildings and corrals. Artifacts recovered include whitewares, bottle glass, and stoneware. Only twentieth century artifacts were noted from within the historic component (Table 8-7).

### *Recommendations*

Archival and informant data do not indicate any historical significance for this property. The structural ruins do not contain materials suitable for tree-ring dating, and the site has low potential to address the material culture and chronological questions presented in the Research Design. Site 41HP169 is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

TABLE 8-7

Distribution of Historic Artifacts from Site 41HP169,  
Delivery Order Number 6 Study Area

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Vessel Glass	Other Vessel Glass	Window Glass	Brick	Misc.	Total
ST 6	0-35	-	-	-	4	-	-	-	4
ST 8	0-28	1	-	-	7	-	5	-	13
Surface	0	8	3	2	65 <sup>a</sup>	1	3	4	86
<b>Total</b>	-	9	3	2	76	1	8	4	103

<sup>a</sup> Piece-plotted items include one specimen from N8.5 E17 and two items from N12 W15.

### Site 41HP170

This site (Figure 8-40) is a low-density scatter of prehistoric and late nineteenth century historic artifacts located on Nahatche clay loam at 129.5 ha (425 ft) above msl. In its native state, this area was a floodplain forest consisting of mixed hardwoods. This area has been cleared and intensively cultivated in the past. It is fallow pasture today.

#### *Stratigraphy*

Two natural soil strata were identified in backhoe excavations at site 41HP170. These are discussed in order from older (lower) to younger (upper).

Stratum I is a very dark gray (10YR3/1) to a dark gray (10YR4/1) fine sandy clay loam. It has an abrupt upper boundary at 10 cm below ground surface. Prehistoric flakes were present in this stratum.

Stratum II is the surface soil horizon, which has been mined for road materials by the Hopkins County Highway Department. An estimated 25 cm of this stratum has been removed from the site. This stratum is a brown (10YR5/3) fine sandy loam. Two flakes and one fire-cracked rock were recovered in BHT 57 at site 41HP170.

#### *Archival Information*

Site 41HP170 is located within the 259.3 ha (640.6 acre) George Birdwell (A-67) Survey. In 1936, this site had been abandoned and was in cultivation. It was inherited by Lizzie Coker in 1924 (Hopkins County Deed Book 115:59) from the Andrew Campbell estate.

The Andrew Campbell homestead has been reported in this general area, and site 41HP170 may be part of it. Conversely, it may have been part of an initial settlement along the Bonham to Jefferson Road, unrelated to the Campbell farm.

#### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, and surface collection. Four backhoe trenches were excavated

within the site area, and an additional four were excavated to the north (see Figure 8-40). All backhoe trenches were culturally sterile. A permanent datum was placed on the site. The prehistoric assemblage collected from the surface consisted of five items: two broken flakes, one whole flake, one unworked cobble, and one fire-cracked rock. The historic assemblage consisted of seven items: four fragments of glass, two plain ironstone/whiteware fragments, and one shell-edged whiteware fragment (1850s to 1870s).

#### *Recommendations*

The site will be within the floodpool and has been totally destroyed by quarrying activities. Although a frontier farmstead is indicated by the material culture, too little of the site remains to address the questions presented in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### Site 41HP171

This site is located at 125 m (410 ft) above msl on the upper margin of the South Sulphur River Valley, west of the road from Posey to Cooper (Figure 8-41). The soil type is Nahatche clay loam (Lane 1977:18-19). The original surface layer at the site consisted of a white silt whose properties make it desirable for use in road construction. Most of this layer had been stripped by quarrying activity for this purpose prior to the present survey. In its native state, this area was a floodplain forest dominated by oaks. It has been cleared and cultivated in the past, and is fallow field pasture today.

#### *Stratigraphy*

Two natural soil strata were identified in backhoe excavations adjacent to site 41HP171 in BHT 60. These are discussed in order from older (lower) to younger (upper).

Stratum I, a very dark gray (10YR3/1) to dark gray (10YR4/1) fine sandy clay loam, has

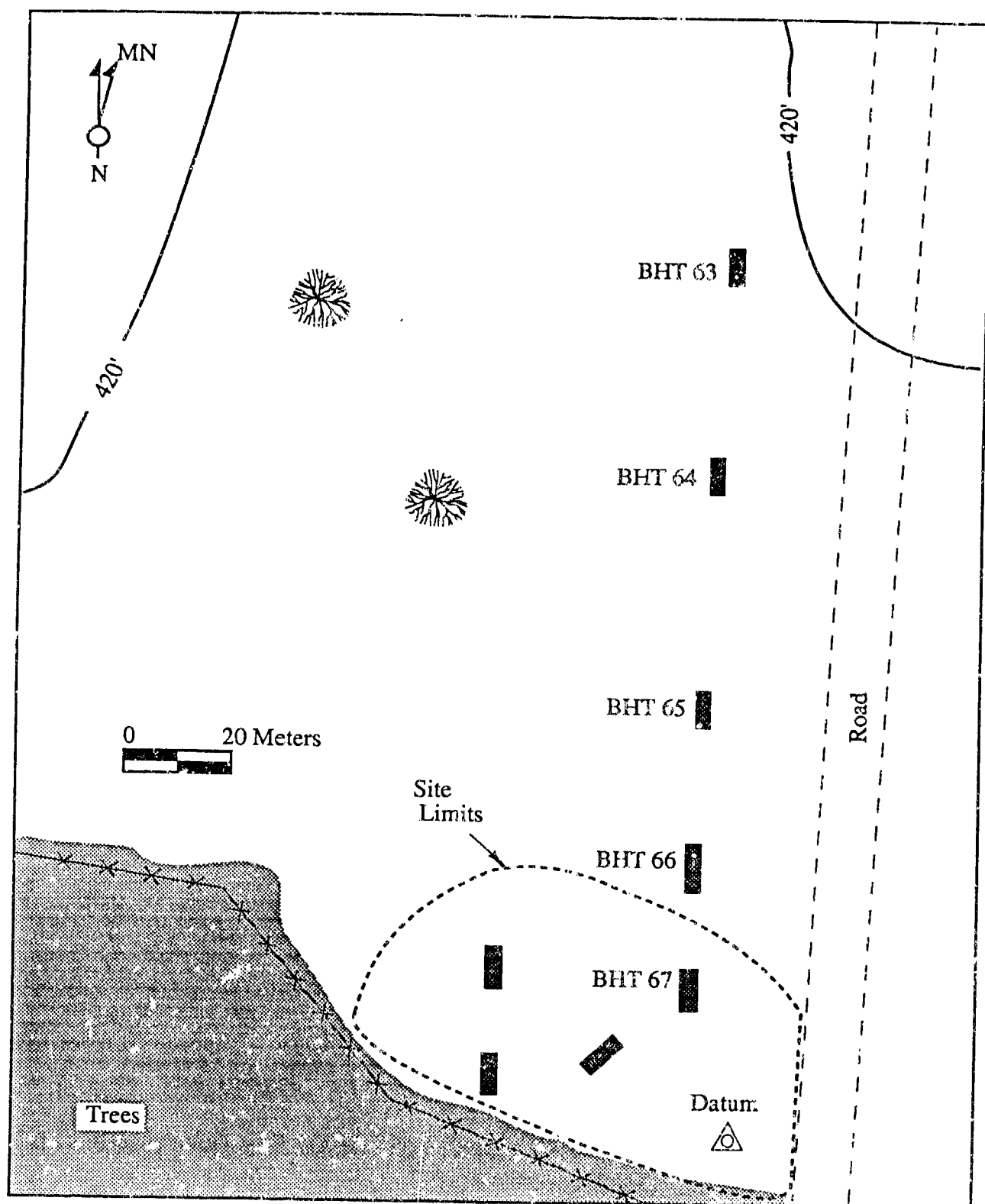


Figure 8-40. Plan of site 41HP170, showing the location of surface features and backhoe trenches excavated within and beyond the site limits.

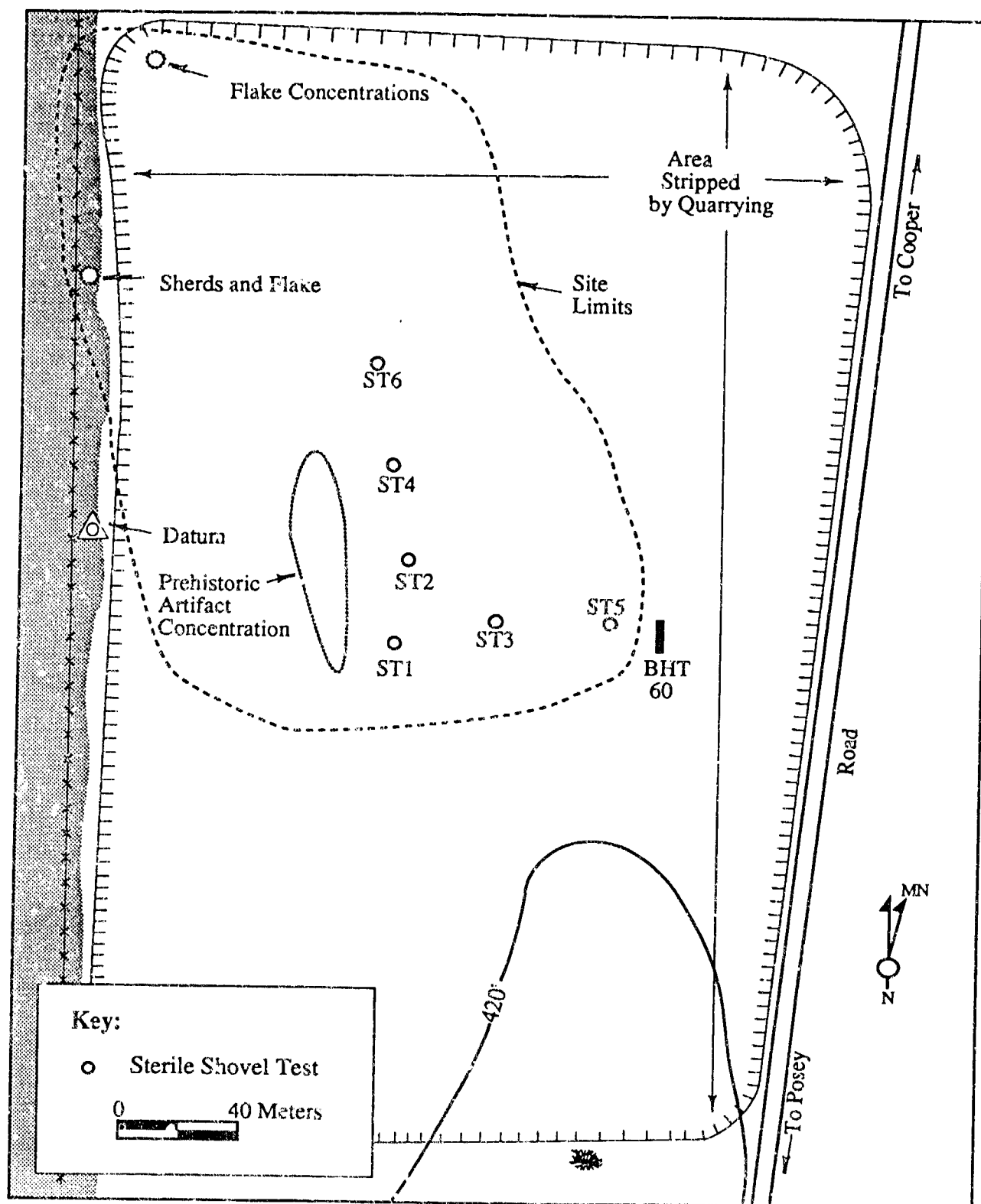


Figure 3-41. Plan of site 41HP171, showing the location of excavation units, surface features, and surface artifact concentrations.

an abrupt upper boundary at 10 cm below ground surface. Prehistoric flakes were present in this stratum.

Stratum II is a brown (10YR5/3) fine sandy loam that extends from the present ground surface to a depth of 10 cm. An overlying layer of white silt, which is estimated to have been 10-20 cm thick at this locality, had been removed via quarrying activity prior to the present survey (see above).

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, and shovel testing. A permanent datum was placed on the site. The quarrying activities had dispersed many artifacts, but some artifact concentrations were noted. Since there was 100% ground visibility, it was possible to map the densest artifact concentrations and scattered artifact locations. However, it is impossible to determine

the extent to which the site deposits have been mixed as a result of mining activities. Six shovel tests were excavated in an area which appeared to preserve intact deposits (see Figure 8-41), but these tests did not yield artifacts.

All artifacts from the site were recovered from the graded surface. The recovered diagnostic points and point fragments, which represent 1.9% and 2.5% (respectively) of all artifacts from the site, indicate Late Archaic and Late Prehistoric occupations. The seven whole points and eight broken points include four Gary points, two possible Gary point preforms, two Kent dart points, one Fresno arrow point, one Bonham arrow point fragment, one Alba arrow point fragment, and two Dawson and two Kent dart points (Figures 8-42, 8-43, 8-44). Additional lithic artifacts recovered consisted of eight bifaces, two unifaces, 60 whole flakes, 148 broken flakes, and three cores. All lithics were Ogallala quartzite, and the majority had been heat treated. Seven ceramic sherds were also recovered (see Appendix B).

This site was one of three localities (i.e.,

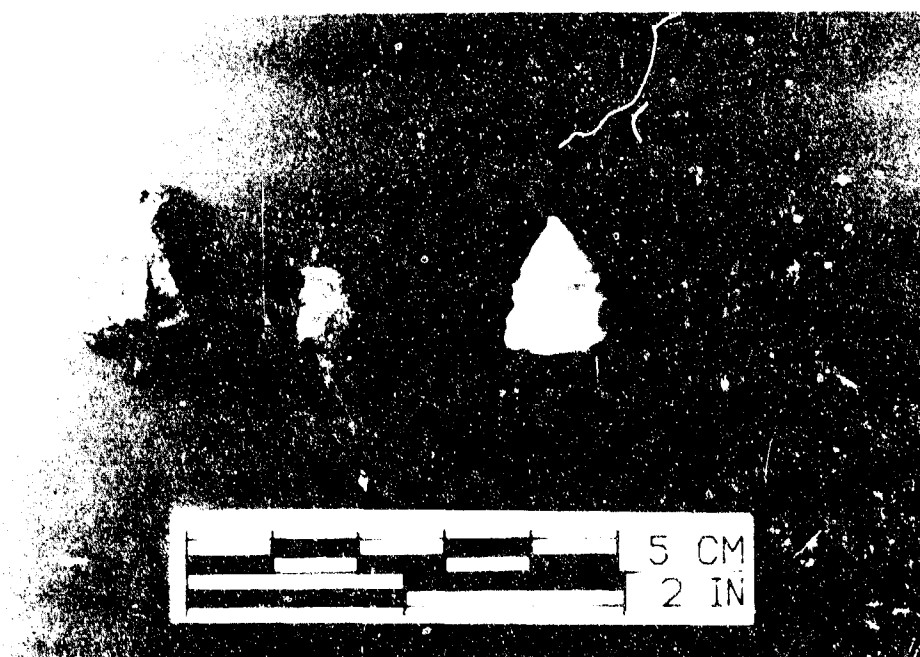


Figure 8-42. Projectile points from site 41HP171, Cooper Lake Delivery Order Number 6 study area. Left-right: Alba arrow point (surface), Bonham arrow point fragment (surface), Fresno arrow point fragment (surface), untyped arrow point fragment (surface).



Figure 8-43. Projectile points from site 41HP171, Cooper Lake Delivery Order Number 6 study area. Top row (left-right): three Gary dart points (surface). Bottom row (left-right): Gary dart point fragment (surface), two possible Gary dart point preforms (surface).



Figure 8-44. Projectile points from site 41HP171, Cooper Lake Delivery Order Number 6 study area. Left-right: two Dawson dart points (surface), two Kent dart point fragments (surface).

41HP171, 41HP174, and 41DT154) which had sufficient numbers of flakes to perform measurements that would be useful in examining lithic resource procurement strategies. Since site 41HP171 is located near the veneer gravel deposits along the uplands south of the South Sulphur River, it was hypothesized that the assemblage would consist of larger flakes with a higher percentage of cortex than assemblages at greater distances from the veneer gravel deposits. Site 41HP171 contained the smallest assemblage that has been used in the flaked stone analysis presented in Appendix A, this report.

### Recommendations

Some concentrations of artifacts remained at site 41HP171 after the topsoil had been stripped for use in road construction. However, it was not possible to determine whether the artifact distributions were due to this stripping or,

indeed, indicated prehistoric activity areas. It is possible that subsurface features may be intact or may have received minimal truncation. This site is within the floodpool and will be near the active zone of erosion along the shoreline. However, since the site has been extensively altered by quarrying, it has low potential to address the material culture and subsistence questions presented in the Research Design. Site 41HP171 is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

### Site 41HP172

Site 41HP172 is not located within the Delivery Order Number 6 project area, but was impacted by the sand quarrying operations that also exposed site 41HP171 (Figure 8-45). At the

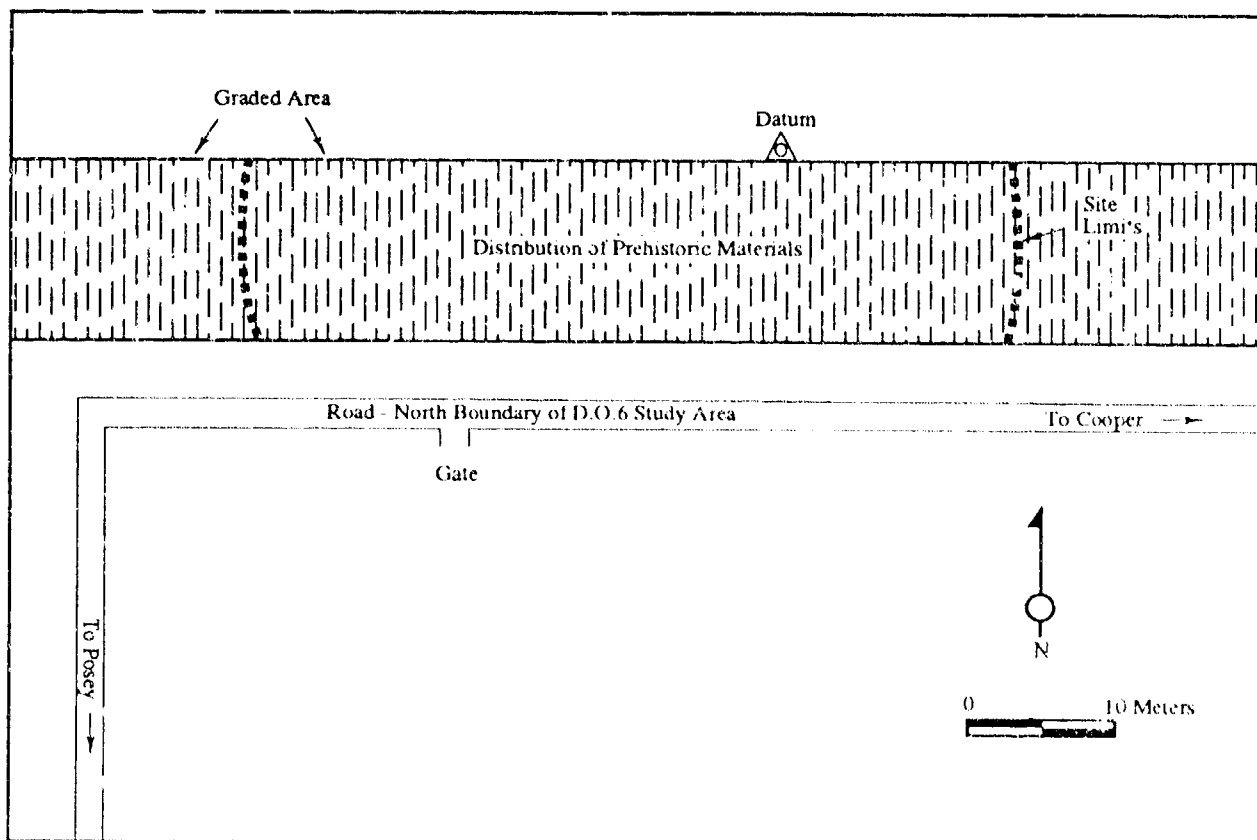


Figure 8-45. Plan of site 41HP172, showing its east and west limits as defined by the distribution of prehistoric artifacts exposed within the graded area, north of the Posey to Cooper Road and outside of the Delivery Order Number 6 project area.



request of the CE, site 41HP172 was recorded as a site, but subsurface investigations were not required since this site was not in the area to be surveyed and because there was 100% exposure of a 500 m<sup>2</sup> portion of the site (see Figure 8-45). This site is located at 125 m (410 ft) above msl, along the road from Posey to Cooper. The soil type is a Nahatche clay loam. The original surface layer at the site consisted of a white silt whose properties make it desirable for use in road construction. Most of this layer had been stripped by quarrying activity for this purpose prior to the present survey. In its native state, this was a floodplain forest dominated by oaks. It has been clear cut and intensively cultivated in the past, and is fallow field pasture today.

### *Stratigraphy*

Two natural soil strata were identified in backhoe excavations at site 41HP172. These are discussed in order from older (lower) to younger (upper).

Stratum I is a very dark gray (10YR3/1) to dark gray (10YR4/1) fine sandy clay loam. It

has an abrupt upper boundary at 10 cm below ground surface. Prehistoric flakes were present in this stratum.

Stratum II is a brown (10YR5/3) fine sandy loam that extends from the present ground surface to a depth of 10 cm. An overlying layer of white silt, which is estimated to have been 10-20 cm thick at this locality, had been removed via quarrying activity prior to the present survey (see above).

### *Archaeological Investigations*

Site 41HP172 may represent a multiple component Late Archaic to Late Prehistoric site. Ceramics represent the dominant class of artifacts recovered by surface collections. The distributions of artifacts were mapped, but no shovel tests were excavated. Based on the examination of the walls of the grader cut, most of the deposit (10-20 cm) has been removed within the excavated transect. A Gary dart point, two Alba arrow points, and two untyped projectile point fragments were collected from the surface (Figure 8-46). Most lithics were Ogallala quartzite.



Figure 8-46. Projectile points from site 41HP172, Cooper Lake Delivery Order Number 6 study area. Top row (left-right): Gary dart point (surface), two Alba arrow points (surface), two untyped projectile point fragments (surface). Bottom row (left-right): biface fragment (surface), biface (surface).

### Recommendations

The grader cut from quarrying operations provided excellent exposure of the site's eastern and western boundaries, indicating that the site measured ca. 50 m wide and 35 m deep. However, as the apparent center of the site lies several meters north of the Delivery Order Number 6 study area and its apparent southern margin appears to have been disturbed by the alignment of the Posey to Cooper Road (the northern boundary of the project area at this location), test excavations were not conducted and, hence, neither the precise horizontal and vertical extents nor character of the site deposits are

known. Therefore, the site is classified as Category II, despite severe disturbances to its deposits caused by the grader activity and the Posey to Cooper Road. If further information is found that warrants additional consideration, the site will be reevaluated for eligibility. No further work is recommended at this time.

### Site 41HP173

This newly recorded historic and prehistoric site is located on a ridge and side slope area at the headwaters of an unnamed tributary of Moores Creek (Figure 8-47). The site's historic component includes a mid-twentieth century farmstead with

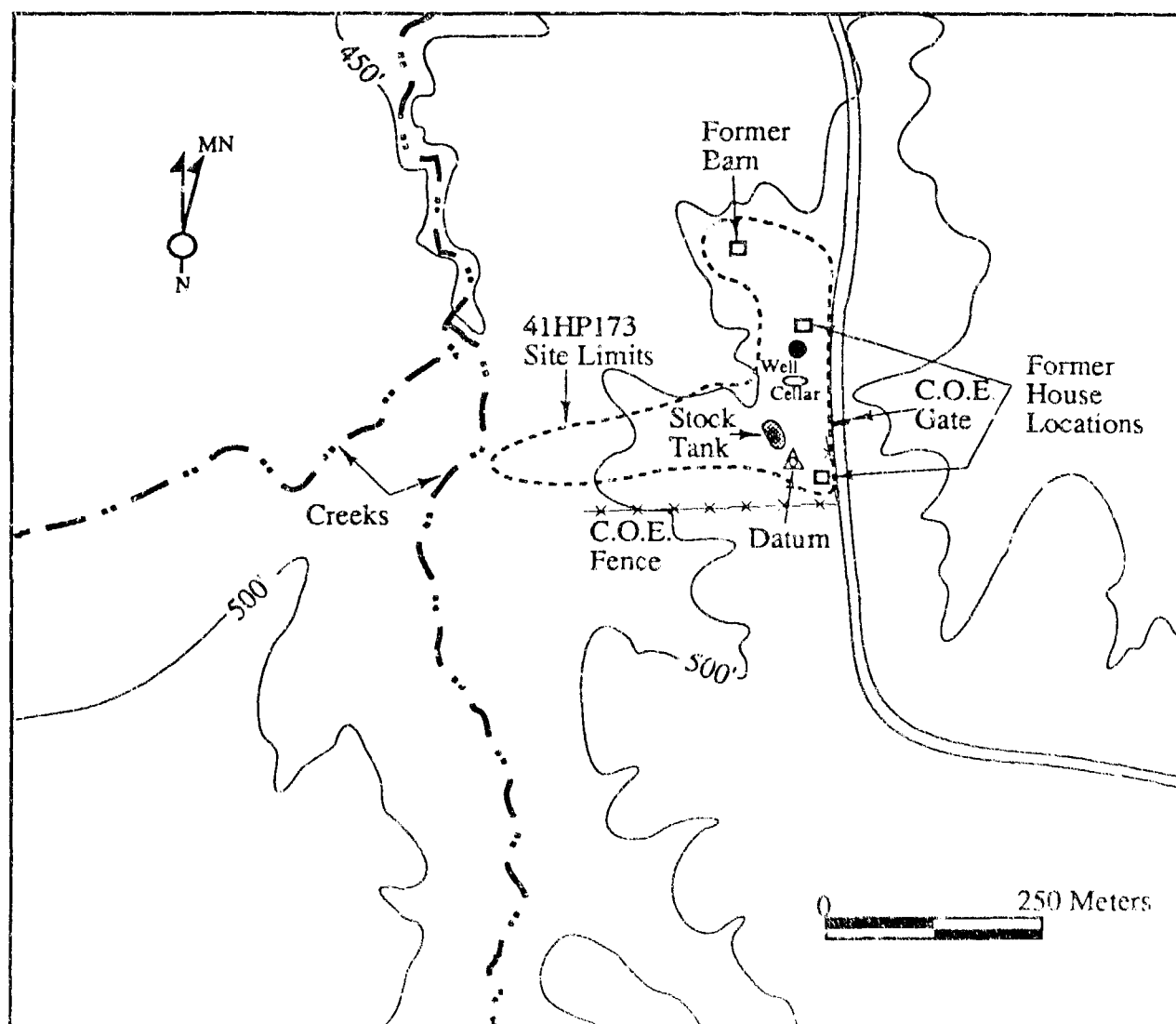


Figure 8-47. Plan of site 41HP173, showing the location of surface features and site limits.

two dwellings, a commercial brick well, a storm cellar, and remnant fence lines. The prehistoric component of the site consists of one Gary point basal fragment and flakes scattered within a broad exposure (ca. 750,000 m<sup>2</sup>) of Uvalde gravels. This is the largest lithic procurement site found during the Delivery Order Number 6 survey. The site's elevation ranges ca. 128-158.4 m (420-520 ft) above msl. The structures composing the site's

historic component are located at an elevation of 158.4 m (520 ft) above msl on Bazette clay loam, 3-5% slopes.

In its native state, this area was an upland forest dominated by oaks. It has been clear cut in the past and intensively cultivated. It is in fallow pasture and second-growth forest today. The site's southern and northern portions are shown in Figures 8-48, 8-49, respectively.

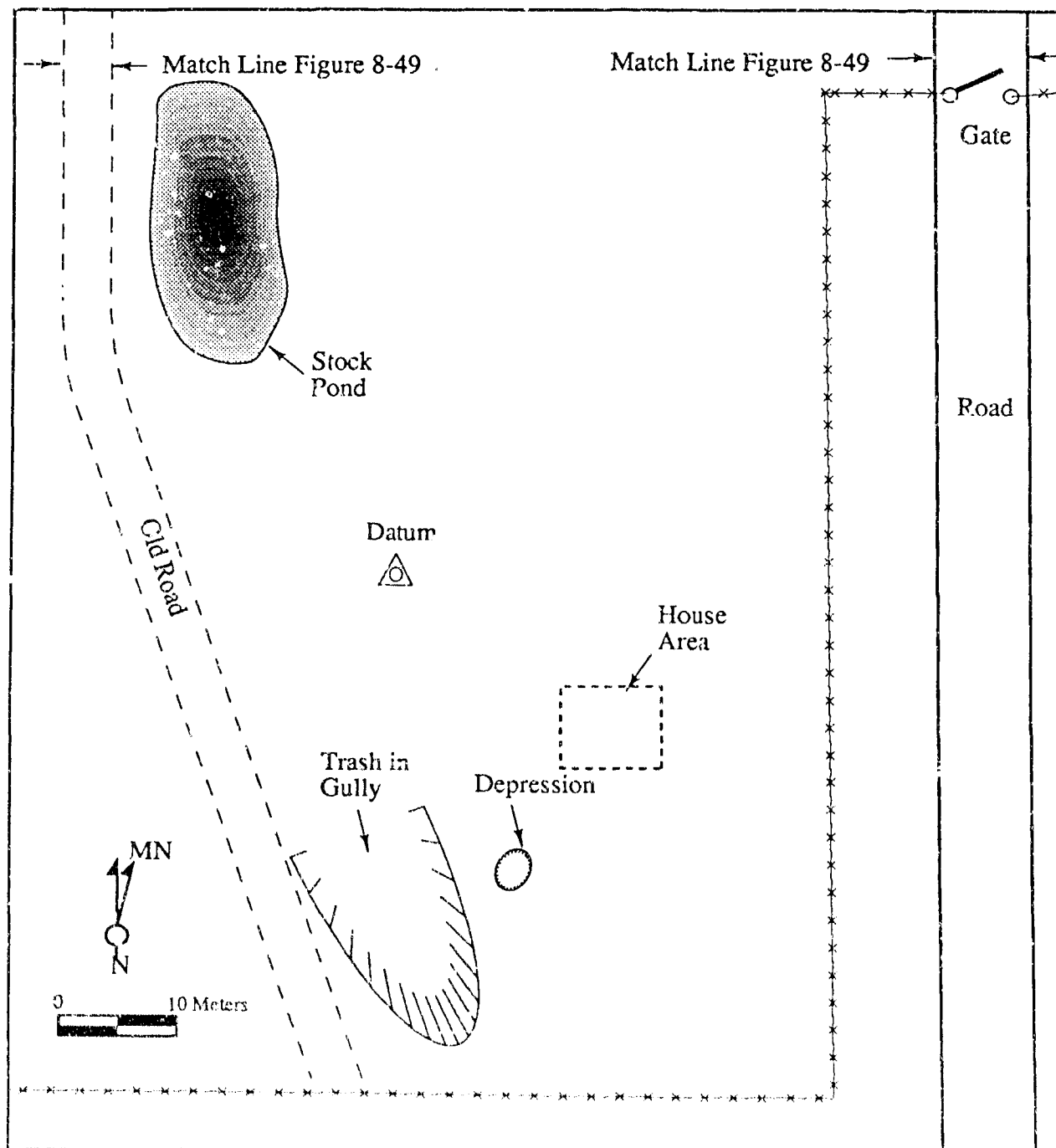


Figure 8-48. Plan of the southern portion of site 41HP173, showing the locations of surface features.

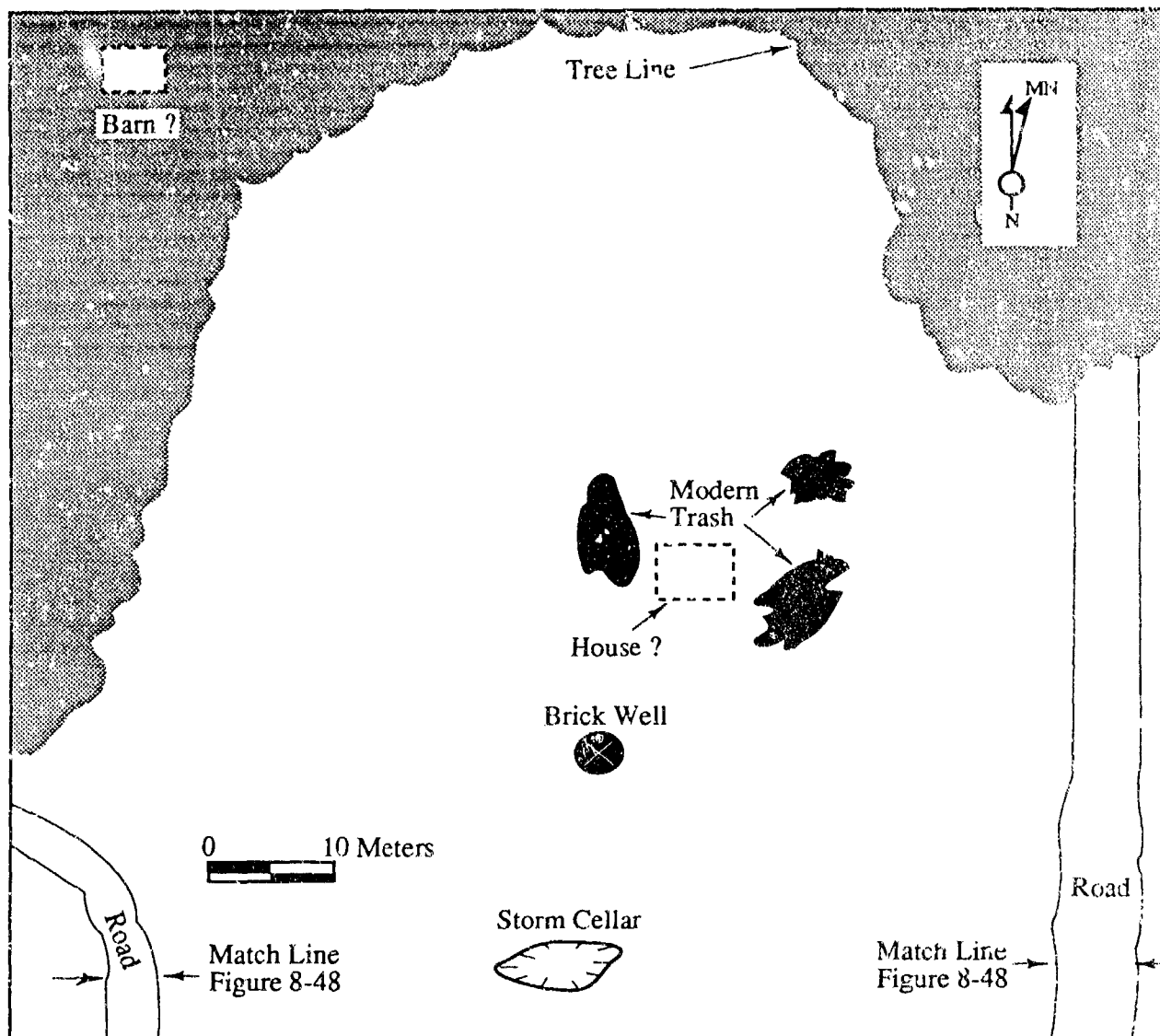


Figure 8-49. Plan of the northern portion of site 41HP173, showing the locations of surface features.

### Stratigraphy

Two natural soil strata were identified at site 41HP173. These are discussed in order from older (lower) to younger (upper).

Stratum I is derived from the weathering of the Kincaid Formation. It is a light olive brown (2.5Y5/4) clay with yellowish brown (10YR5/4) mottles. It has a clear, smooth upper boundary 0-10 cm below ground surface. The construction of the road and the erosion have exposed Stratum I in ca. 2% of the site area. It is culturally sterile.

Stratum II is the surface soil horizon. It is a very dark grayish brown (10YR3/2) clay loam.

Alluvial material, along with the Uvalde veneer gravels, are derived from this stratum.

### Archival Information

Site 41HP173 is located within the Thornton Davis Survey. In 1937, the tract containing the two historic components of this site was owned by Mrs. M. M. Faison of Sulphur Springs. Mrs. Faison owned a 10.5 ha (26 acre) tract and an 3.4 ha (8.5 acre) tract, both of which were obtained through inheritance on 10 December 1920 (Hopkins County Deed Book 108:258). The land was unoccupied, and was entirely in woodland.

The tract to the west which contained the majority of the prehistoric component, was owned by Mrs. Mary Campbell of the Andy Campbell Estate, Route 4, Sulphur Springs. She had obtained this land in 1928 (Hopkins County Deed Book 13-61:86, GL330). However, no historic structures were recorded in the 41HP173 site area. The Campbell farm consisted of 0.30 ha (0.75 acre) reserved for the home and 0.10 ha (0.25 acre) for a garden. Additionally, 20 ha (50 acres) were in cultivation (4 ha [10 acres] for corn, 16 ha [40 acres] for cotton), 10 ha (25 acres) were wasteland, and 21.4 ha (52.8 acres) were in pasture, with 30 ha (75 acres) in need of terracing. This was extremely poor cotton land, with only 0.10 bale per ha (0.25 bale per acre). This upland landform containing the prehistoric component of 41HP173 has been actively eroding for well over 50 years, and there is low potential for intact features or deposits.

Informant interviews indicated that Mrs. Rose Glossup, born in 1899, was the daughter of A. C. Hooten, listed as the owner of property nearby. In recalling her childhood, Mrs. Glossup noted that the area of 41HP174, located 1.6 km (1 mi) north of 41HP173, contained the "Andy Campbell

Place," along with the home of the Louis Campbell family. She thought that one of the homes (see Figure 8-48) within 41HP173 was a box house on bois d'arc piers that was occupied by tenant farmers. She recalled a stock pond nearby and that the Kirby Family lived at the northern component of 41HP173 (see Figure 8-49). No further information about specific site locations or occupants could be provided.

### *Archaeological Investigations*

Fieldwork conducted at this site included close interval (5 m) survey, surface collection, mapping, and photography. Surface artifacts were collected. A single shovel test (25 cm x 25 cm x 35 cm) was excavated for the site datum, but no artifacts were noted. Prehistoric artifacts noted primarily consisted of tested cobbles and primary flakes. A single core, a broken point of unknown type, one biface, and one flake were collected (Figure 8-50).

The historic house sites were not present on the site in 1937. These historic components contained late nineteenth to early twentieth century materials, the majority dating after 1940. Thirty-



Figure 8-50. Flaked stone artifacts from site 41HP173, Cooper Lake Delivery Order Number 6 study area. Left-right: untyped dart point fragment (surface), biface fragment (surface).

seven historic artifacts were collected. These items consist primarily of ironstone/whiteware (27%), stoneware (16.2%), bottle glass (18.8%), and window glass (8.1%). Other items include porcelain, table glass, brick, and cut nails (5.4% each), a single wire nail, and a shoe part. The presence of the few late nineteenth century materials (i.e., cut nails) can be explained by the phenomenon of recycling old buildings to construct new ones. There is no evidence of late nineteenth century occupation of either of these sites.

### Recommendations

Informant and archival data indicate the site was a twentieth century tenant farmstead with multiple dwellings. However, due to the serial occupants and severe mid-twentieth century land modification, this is classified as a Category III property. Furthermore, the archival and informant information indicate that the historic occupations date to less than 53 years, and no historically significant persons lived there. The prehistoric component is apparently related to low-intensity chipping and testing of the Ogallala quartzite cobbles, and no intact deposits remain. Thus, the prehistoric component is also classified as Category III. Both the prehistoric and historic components of this site are clearly not eligible for the National Register. Current information indicates that this site has low potential to address the material culture, chronological, and subsistence questions presented in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

### Finley Quarry Site (41HP174)

This site is located on the uplands along Finley Branch, ca. 75 m (246 ft) east of that river, and is being eroded by a recent gully (Figures 8-51 8-52). Elevation of the site is 137 m (450 ft) above msl. The mapped soil type for this location is eroded Crockett loam, 5% slopes (Lane 1977). The site is comprised of dense concentrations of lithic artifacts and fire-cracked rock that is eroding into the gully. An estimated 60% of this feature had eroded, as have artifacts from the

surrounding soil matrix.

The surrounding vegetation is composed of grasses, locust trees, and greenbriar. Elevation gradually increases, reaching a topographic high ca. 500 m (1,640 ft) east of the site. In its native state, this was an upland oak forest. The uplands and ridge crests east of the site contain a second-growth post oak forest.

### Stratigraphy

The gullies within the eroded Crockett loam at site 41HP174 are ca. 30.5 m (100 ft) apart, range 2.4-23 m (8-75 ft) in width, and are 0.3-3 m (1-10 ft) deep. Two natural soil strata were exposed by this gully erosion at site 41HP174.

Stratum I is a dark reddish brown (5YR3/2) clay with layers of gray (2.5Y5/0) and olive yellow (2.5Y6/6) shale. This is the weathered Kincaid Formation. It is culturally sterile.

Stratum II is the surface soil horizon. It ranges from 0-25 cm in depth, and has been stripped from over 60% of the site area. All cultural materials are derived from this stratum. Many cultural items exposed along the walls of the gully appear to be *in situ* or close to their original points of deposition.

### Archaeological Investigations

Fieldwork conducted at the site included close interval (5 m) survey, mapping, surface collections, photography, and shovel testing. Two shovel tests (35 cm x 35 cm x 35 cm) excavated upslope from the eroded gully yielded only five flakes (see Figure 8-51). Surface collections yielded an additional 851 items.

The dense concentration of Uvalde gravels, tested cobbles, and flakes at site 41HP174 has been exposed at the head of an erosional gully (see Figure 8-52). This lithic scatter forms a nearly continuous pavement of cobbles and flakes covering a 400 m<sup>2</sup> area. Extensive exposures of Uvalde gravels are also located in the forest on the western slopes of the ridge crest. Uvalde gravel is an ubiquitous term that applies to all relict gravel deposits on late Tertiary and Pleistocene terraces and upland interfluvies. These deposits have a widespread distribution across the southern High Plains and Texas Blackland Prairies, and

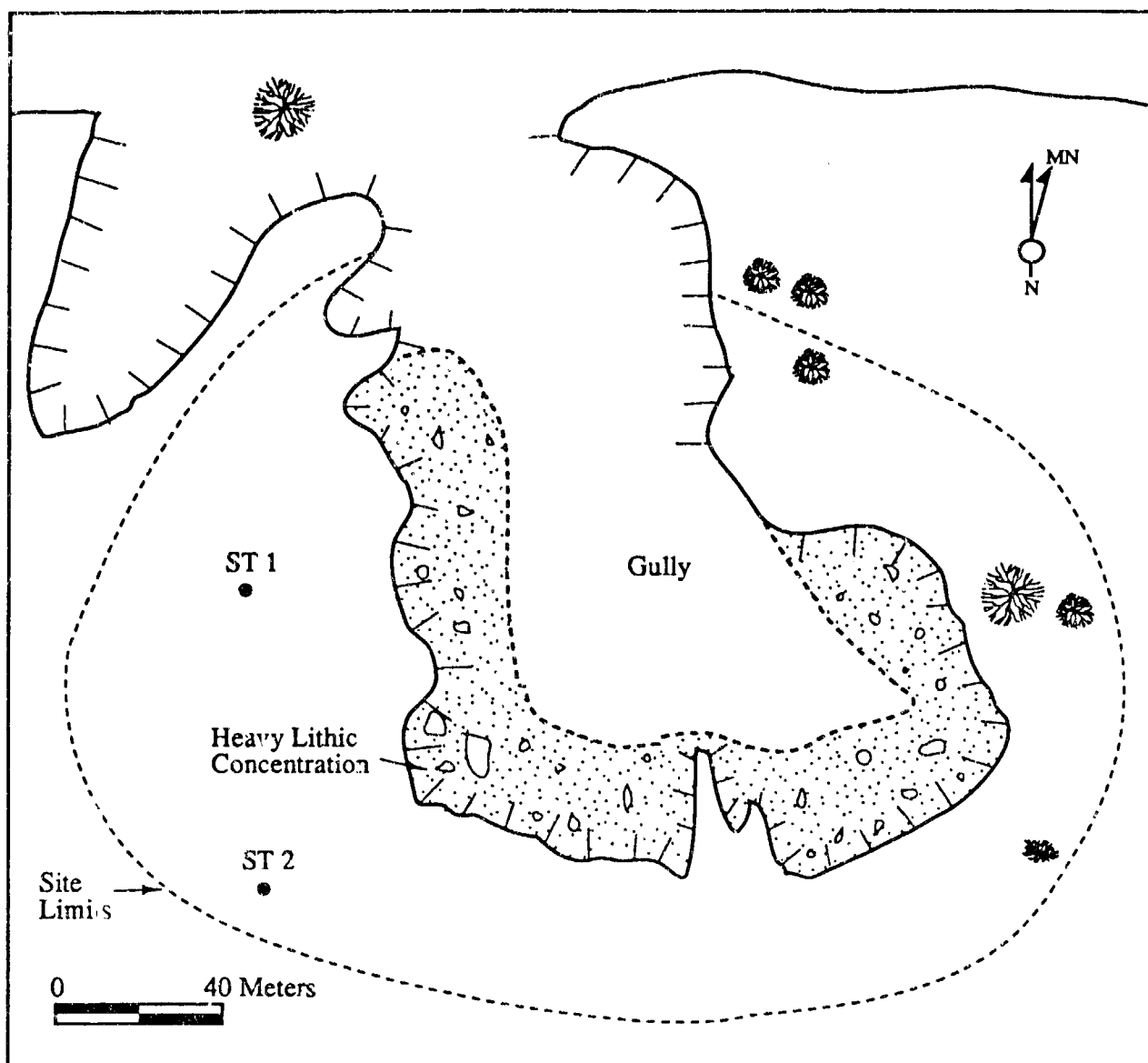


Figure 8-51. Plan of site 41HP174, showing the location of shovel tests, surface features, the lithic concentration, and site limits.

widespread deposits of pebbles, cobbles, and boulders occur along the divide between the Red and Sulphur Rivers and the upland interfluvium to White Oak Creek in northeast Texas (Banks 1990). These surface veneers do not extend below the A-horizon in most soils.

Subsurface testing of the site discovered only low-density lithic debitage primarily concentrated in the upper 25 cm of the silty clay loam. The densest concentration of cultural materials appears to be limited to the eroded area. The concentration of lithics at the site may have resulted from severe

erosional processes that have removed the A-horizon and compressed the stratigraphy. If this interpretation is accurate, little lateral movement has occurred, as indicated by the presence of pressure flakes, all of exotic chert material, that are spatially restricted to a small area within the site.

Of the 856 total artifacts recovered from intensive surface collection and the excavation of two shovel tests, 732 were flaked stone artifacts. Unifaces, white flakes, and broken flakes comprise 96.5% of the total flaked stone artifact

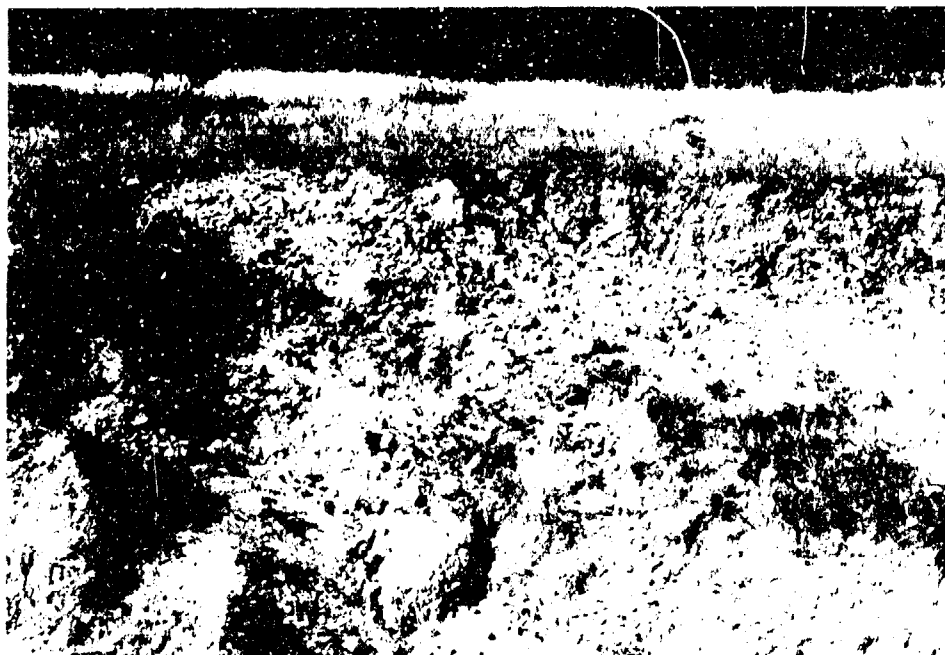


Figure 8-52. General view of site 41HP174, showing the erosional gully, facing south. Note fire-cracked rock eroding from the gully wall.

assemblage. Given the proximity to extensive Uvalde outcrops, it was assumed that lithic procurement was a major activity at the site. Other items include bifaces (3.4%), a single whole point, and a broken point (Figures 8-53, 8-54). Fire cracked rock was also recovered.

Flake analysis (see Appendix A, this report) has determined that primary decortication flakes are poorly represented in the samples collected from the site. Analysis of whole flakes, which comprise 27.6% of the flaked stone assemblage, indicates that only 20% of them fall into the 51-100% Dorsal Cortex category. The 0-50% Dorsal Cortex combined category includes 80% of the total whole flake assemblage, suggesting that tool production was a major activity at the site. A technological comparison of three analyzed flake assemblages (i.e., 41HP171, 41HP174, 41DT150) is presented in Appendix A.

Utilized flakes comprise 23% of the total artifact assemblage. This at first appeared anomalous, since it was initially assumed that tool production was a major activity at the site. There have been no published reports on edge-damage patterns for Uvalde (Ogallala) quartzite, which is often very coarse in texture. It is not possible,

therefore, to relate edge-damage patterns on artifacts with specific activities at the present time. It is assumed that the presence of utilized flakes indicates that food processing activities occurred at the site. Further work with Ogallala quartzite tool and flake damage should be a focus of future laboratory analyses.

A Yarbrough dart point made of Uvalde quartzite was recovered from the site during the surface collection (see Figure 8-53). Yarbrough points are thought to date from the Early to Late Archaic periods (Turner and Hester 1985:160). Prewitt (1974, 1991) assigns a Middle Archaic association with Yarbrough points. McGregor and Bruseth (1987:173) agree with this chronological placement. Suhm and Jelks (1962:261) estimate a ca. 500 B.C. to A.D. 1000 chronological placement. The broken point found at 41HP174 is a non-diagnostic dart point tip.

In addition, a local collector reported that he found a San Patrice dart point (transitional or late Paleo-Indian to Early Archaic in age) at the site (see Journey et al. 1993). This San Patrice dart point, which was examined by ARP personnel, is made of a non-local white chert.

No other temporally diagnostic artifacts





Figure 8-53. Projectile points from site 41HP174, Cooper Lake Delivery Order Number 6 study area. Left-right: Yarbrough dart point (surface), untyped projectile point fragment (surface).



Figure 8-54. Bifaces recovered from the surface at site 41HP174, Cooper Lake Delivery Order Number 6 study area.

were found at site 41HP174. Later occupations may have occurred at the site. With the data at hand, however, this cannot be evaluated since the present sample of artifacts from the site was from a deflated area. Only two temporally diagnostic artifacts were recovered. From this, it may be gathered that the site was used from the late Paleo-Indian to Late Archaic periods.

### *Recommendations*

Although the site is small and has been subject to considerable erosion, its potentially early occupation and use make it relatively significant to the Cooper Lake Research Design. The single point recovered within the recorded site boundaries by ARP personnel indicates an Archaic period occupation/utilization, and thus, the site may provide information about lithic reduction during this time period. Although the full research potential of the site is unclear at this time, the site will be within a Park area. Further evaluation is recommended for this Category II property. Surface collections and controlled excavations around the perimeter of the gully may provide greater details on crossmembers of flakes and cores and distributions of non-local lithic materials.

### **Site 41HP175**

This prehistoric site (Figures 8-55, 8-56) is located between the modern artificial channel and former channel of Finley Branch. The mapped soil for the site is Nahatche (Lane 1977). Elevation at the site is 134 m (440 ft) above msl. In its native state, this area was a floodplain forest. It has been cleared and intensively cultivated in the past, and it is in fallow field pasture today. Vegetation at the site consists of water oak, locust and willow trees, with an understory of grass, greenbrier, and other herbaceous plants. The site has been used for cattle grazing and is only partly forested.

### *Stratigraphy*

Four natural soil strata were identified in backhoe and trackhoe excavations within site 41HP175. These are described in order from oldest (lowest) to youngest (uppermost).

Stratum I is a light yellowish brown

(10YR6/4) clay loam with very dark grayish brown (10YR3/2) mottles. Calcium carbonate concretions are present throughout the stratum. It has a clear upper boundary at 2.3 m below ground surface and was excavated to a maximum depth of 4.0 m below ground surface. The original channel of Finley Branch was incised into this stratum.

Stratum II is a dark grayish brown (10YR4/2) silty clay loam. It has light yellowish brown (10YR6/4) to grayish brown (10YR5/2) mottles. The upper boundary of this stratum is abrupt, at 1.2 m below ground surface. The occupational level of site 41HP175 was on the surface of this stratum.

Stratum III is a dark gray (10YR4/1) silty clay loam. This stratum has been enriched by anthropogenic processes, with wood charcoal and bone fragments throughout. A 10 cm midden is evident within this stratum 80-90 cm below surface.

Stratum IV is a massive surface soil horizon. It is a brown (10YR5/3) silty clay. Charcoal flecks are present throughout this stratum's homogenous profile.

### *Archaeological Investigations*

A trackhoe trench, averaging 1-3 m in depth and 1.2 m in width, was excavated between the modern and former channels of Finley Branch (see Figures 8-55, 8-56). Prehistoric ceramics were recovered from trench fill, in a concentrated area 5 m west of the former channel. Approximately 3 m<sup>3</sup> (105.9 ft<sup>3</sup>) of this fill was screened through 0.25 in mesh. Artifacts recovered consisted of fire-cracked rock, unworked cobbles, cores, whole and broken flakes, unifaces, bifaces, arrow points, ceramics, and a bison phalange.

Controlled excavations were performed at this site using 10 cm arbitrary levels. The artifact assemblage recovered from controlled excavation is presented in Table 8-8. Fire-cracked rock, flakes, and ceramics were discovered between 75-95 cm below ground surface. Two 50 cm x 50 cm shovel tests were excavated in 10 cm levels along the south trench wall. These shovel tests recovered artifacts only from 72-102 cm below ground surface. Artifact density was greatest between 72 cm and 82 cm below ground surface.

In order to determine site boundaries and

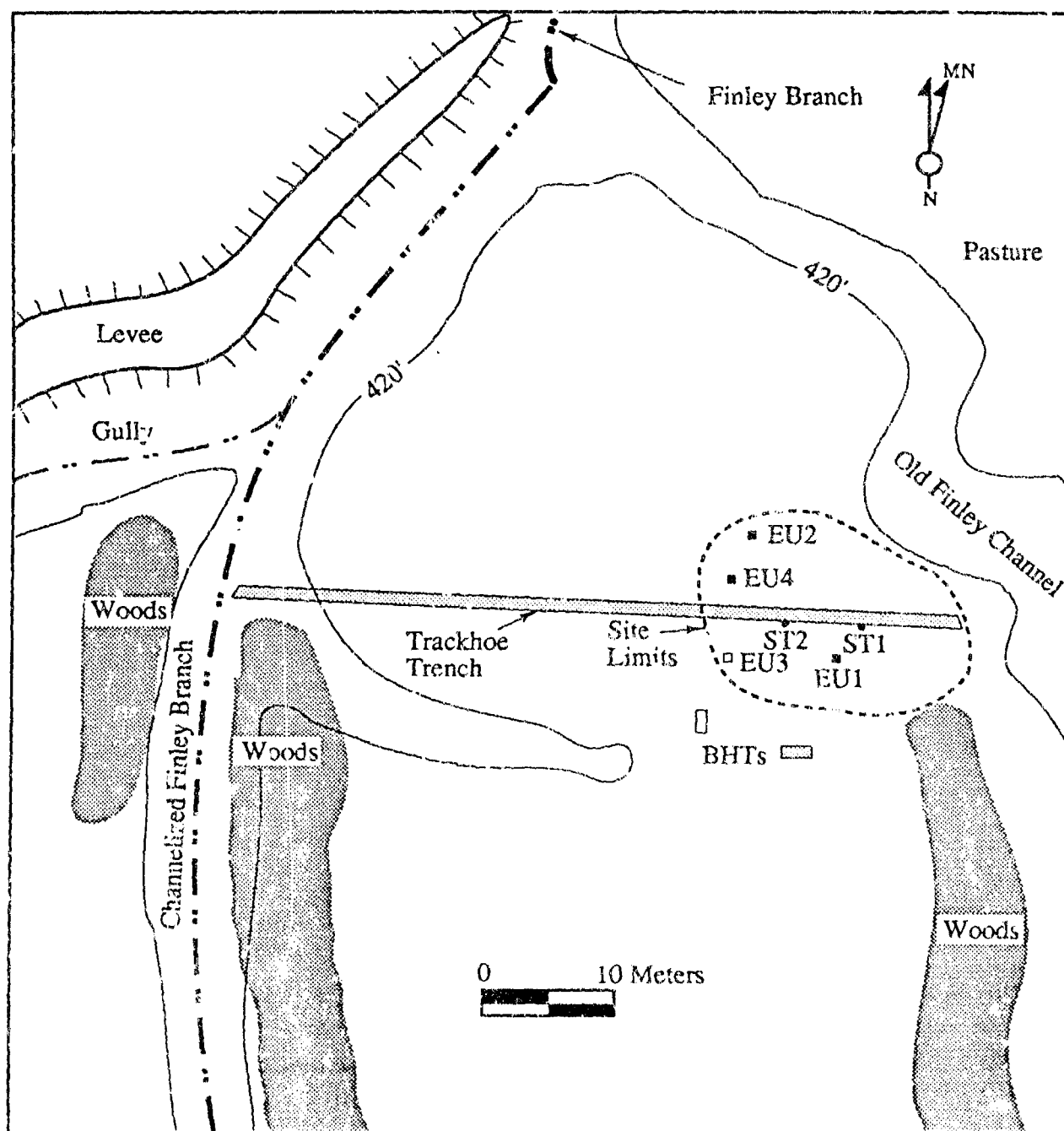


Figure 8-55. Plan of site 41HP175, showing its position in relation to the channelized and original courses of the Finley Branch. Note backhoe, trackhoe, and other test excavations within and beyond the site area.

recover a more representative sample, four 1 m x 1 m excavation units were excavated. From testing and profile examination, the upper 70 cm of silty clay (post-settlement alluvium) was found to be sterile. The upper 50 cm overburden of subsequent

excavations was not screened. All control units were excavated in 10 cm levels, and all soil matrix was water screened through 0.25 inch mesh. Cultural materials were found to be concentrated in a zone from 70-90 cm below ground surface. At

the eastern end of the trench, along the old Finley Channel, cultural materials were noted to dip down the old creek bank to 2.0 m below ground surface. Since the trench walls were unsupported in this area, controlled excavations were impossible due to safety considerations.

Two radiocarbon assays were run on samples recovered from screened backdirt derived from the buried cultural layer (75-95 cm below ground surface) at this site. One sample was destroyed during laboratory processing (evaporated) and the other produced a dendrocalibrated date of A.D.  $1720 \pm 90$  (SMU-2326). However, given the sample's late date and the possibility that it was not recovered from a tight depositional context, it may be contaminated by more recent carbon and hence be unsuitable for interpretation.

Arrow point types from 41HP175 include three Perdiz, one Bonham, and one Maud (Figure 8-57). All of these types are assignable to the Late Prehistoric period (A.D. 1200-1500; Turner and Hester 1985). Ceramics at the site include both plain and decorated types, which are more fully described in Appendix B, this report. Established ceramic types found at the site include Avery

Engraved, Bullard Brushed, Poynor Engraved, and Ripley Engraved (Suhm and Jelks 1962). Dates for these established types range ca. A.D. 1200-1700, beginning at the Caddo II period and ending possibly before the Contact period. Other provisional ceramic types at the site are as yet undated.

Taken together, both diagnostic arrow points and decorated ceramics suggest that the primary occupation of the site occurred between A.D. 1200 and A.D. 1500. Data are not at hand to further refine site age, but the presence of Perdiz points may indicate major use of the site ca. A.D. 1400.

Site function, based upon the recovered artifacts, includes lithic reduction as well as subsistence-related activities. Determination of site size was based on the distribution of positive hand excavated units and on data obtained from mechanized trenching. The site is estimated to be less than ca. 30 m in diameter. The 10-20 cm thick midden at this site is overlain by ca. 1 m of alluvium. Controlled excavation of test units suggest the presence of two artifact concentrations at this site, surrounding Shovel Test 1 and Excavation Unit 1, and Excavation Unit 4.



Figure 8-56. General view of site 41HP175, facing northwest.



Table 8-8 (cont.)

Unit	Depth (cm)	Arrows	Bifaces	Unifaces	Cores	Flakes	Cobbles	Bone	Ceramics	Total
EU 4										
Level 2	70-80	-	-	-	-	1	-	-	1	2
Level 3	80-90	-	-	2	-	6	18	5	6	37
Level 4	90-100	-	-	-	-	-	1	-	-	1
Level 5	100-110	-	-	-	-	1	-	-	-	1
Level 6	110-120	-	-	-	-	-	-	-	1	1
ST 1										
Level 1	70-72	-	-	-	-	1	-	-	-	1
Level 2	72-82	-	1	-	-	27	3	-	2	33
Level 3	82-92	-	1	-	-	16	1	-	1	19
Level 4	92-102	-	-	-	-	1	-	-	-	1
ST 2	70	-	-	-	-	-	-	-	5	5
Total		5	7	14	6	299	69	40	137	577



Figure 8-57. Projectile points from site 41HP175, Cooper Lake Delivery Order Number 6 study area. Top row (left-right): Perdiz arrow point fragment (EU 1, backdirt), Perdiz arrow point fragment (EU 1, 80-90 cm), Perdiz arrow point fragment (backdirt, east end). Bottom row (left-right): Bonham arrow point (EU 1, backdirt), Maud arrow point fragment (north trackhoe, backdirt), untyped arrow point (backdirt).

### *Recommendations*

This site is classified as Category II, since it has great potential to provide data which may address the settlement, material culture, chronological, and subsistence questions outlined in the Research Design. This late Caddoan site is located below the park area, and will not be impacted by park construction. It will be inundated and is in the vegetation clearing zone. Further excavation should be conducted at the site to determine whether it is a single- or multi-component site and in order to provide more accurate dating. The site is unique in that it is sealed by recent floodplain alluvium, and does not appear to have been disturbed by Historic period occupation.

### **Site 41HP176**

This small prehistoric site covers ca. 1,250 m<sup>2</sup> (13,455 ft<sup>2</sup>) along the upland ridge north of site 41HP173 (Figure 8-58). In actuality, it is a continuation of the broad Uvalde veneer deposit in

the uplands south of the South Sulphur River. The site is located at 152.4 m (500 ft) above msl on a Bazette clay loam, 3-5% slopes. The Ap soil horizon has been completely eroded, and the western portion of the site has been destroyed by construction of the Posey-Harpers Crossing road. In its native state, this was an upland oak forest. It has been cleared and intensively cultivated in the past, and it is in fallow field pasture and second-growth forest today.

### *Stratigraphy*

A single natural soil stratum was identified at site 41HP176. This stratum, a light olive brown (2.5Y5/4) clay with yellowish brown (10YR5/4) mottles, is assumed to be culturally sterile since it is an upland soil formed in the weathered bedrock of the Kincaid Formation. Erosion has removed the site's original A soil horizon, which contained Uvalde gravels and the prehistoric artifacts. Some cultural materials may now be incorporated into the remaining stratum by past plowing.

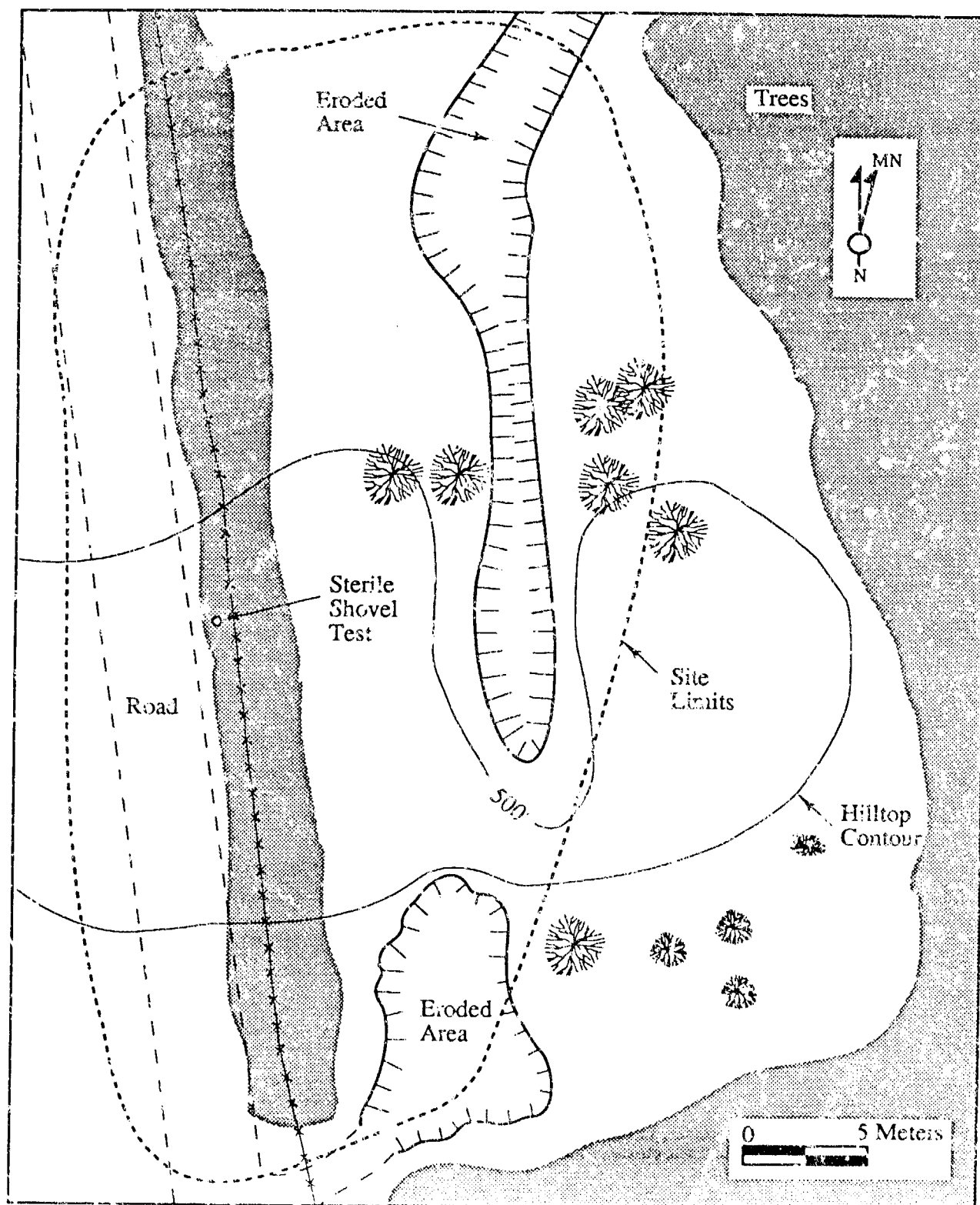


Figure 8-58. Plan of site 41HP126, showing the locations of eroded areas and other surface features, the single shovel test (sterile), and site limits.



### *Archaeological Investigations*

Fieldwork conducted at the site included close interval (5 m) pedestrian survey, photography, and surface collections of the eroded deposit. Since the site was completely eroded and partially destroyed by the road, a single shovel test was excavated along the road in the center of the site where erosion was less extensive. This unit was culturally sterile (see Figure 8-58). All other areas were more intensively eroded. Surface collections from the entire site consisted of only 58 items. Ogalala quartzite flakes comprised 46% of the assemblage, followed by modified flakes (26%) and cores (17%). Bifaces (7%) and broken flakes and fire-cracked rock (2% each) rounded out the assemblage.

### *Recommendations*

This site has no surface soil and has been impacted by road construction. No temporally or functionally diagnostic artifacts were recovered. The surface collection essentially removed all cultural materials from the site. Due to the low-density remains and lack of integrity, the site has low potential to address the material culture, chronology, and subsistence questions presented in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for NRHP eligibility. No further work is recommended at this time.

### **Site 41HP177**

This historic site is located on a remote upland ridge point, 1 km (0.6 mi) southwest of the Aiguier Cemetery (Figure 8-59). It is situated 149 m (490 ft) above msl and the soil type is Razene Clay loam, 3-5% slopes. A pavement of Uvalde gravels ranging in size from 5-30 cm mantles this landform. In its native state, this was an upland forest dominated by oaks. Presently the site is within a mixed oak-hickory forest which appears to be secondary growth. The only access to this site is an old logging road or wagon track along an unnamed tributary of Moores Creek, 200 m (656 ft) north of the site. The road from Aiguier

Cemetery west to Harpers Hill is ca. 500 m (1,640 ft) north of the site.

### *Archival Information*

Archival and informant research did not yield any information on the previous occupants of this site. The WPA files for the Ulysses Aiguier Survey, within which this site is located, indicate that the site was abandoned prior to 1937. No roads or houses were indicated in the vicinity of site 41HP177 on the 1907 soil survey, the 1941 highway map, or the 1951 highway map.

### *Stratigraphy*

Two natural soil strata were identified at site 41HP177. These are discussed in order from older (lower) to younger (upper).

Stratum I is a light olive brown (2.5Y5/4) clay with yellowish brown (10YR5/4) mottles. It has an abrupt upper boundary 0-9 cm below ground surface. It was excavated to a maximum depth of 25 cm below ground surface. It is culturally sterile.

Stratum II is the surface soil stratum, which has been eroded from ca. 2% of the site area. It is a very dark grayish brown (10YR3/2) clay loam. All historic materials and the Uvalde gravels are derived from this stratum.

### *Archaeological Investigations*

Fieldwork conducted at this site included close interval (2 m) pedestrian reconnaissance, mapping, and photography. An intensive surface collection was made to provide an evaluation of its chronological placement (Figure 8-60).

In all, 98 artifacts and 71 g of bone (all *Sus scrofa* [domestic pig]) were recovered from the site. The artifact assemblage was dominated by ironstone-whiteware (61%) followed by bottle glass (17%). Table glass (8%), stoneware (4%), personal items and kitchen items (3% each), and cut nails and fire arms (1% each) rounded out the assemblage.

Distinctive items recovered from this site include hand-painted, sponged, and transfer-printed ironstones dating from the 1850s-1860s. Additionally, one feather-edged, non-cockled,

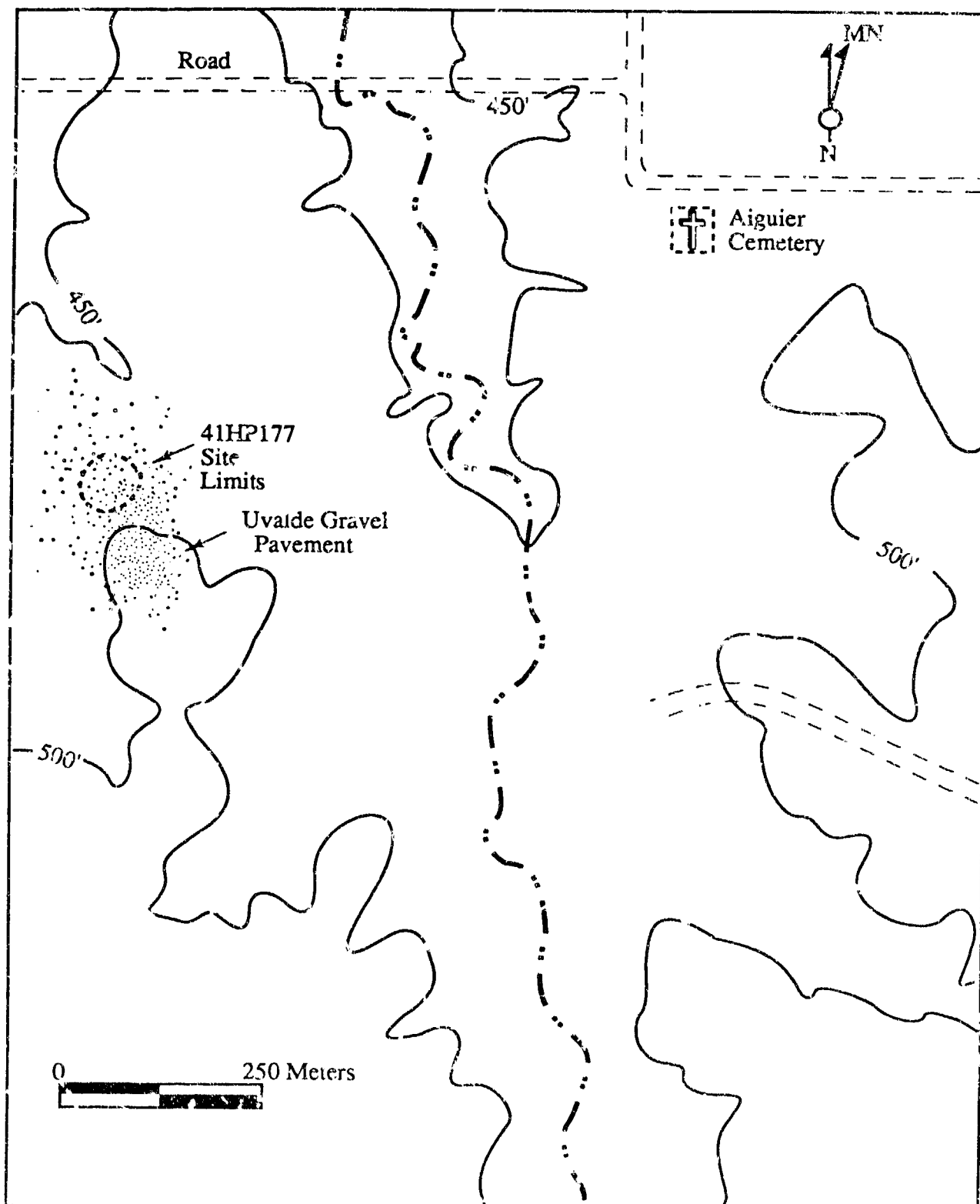


Figure 3-59. Plan of the greater site 41HP177 area, showing the site's position in relation to the Aiguier Cemetery and a large surface concentration of Uvalde gravels.

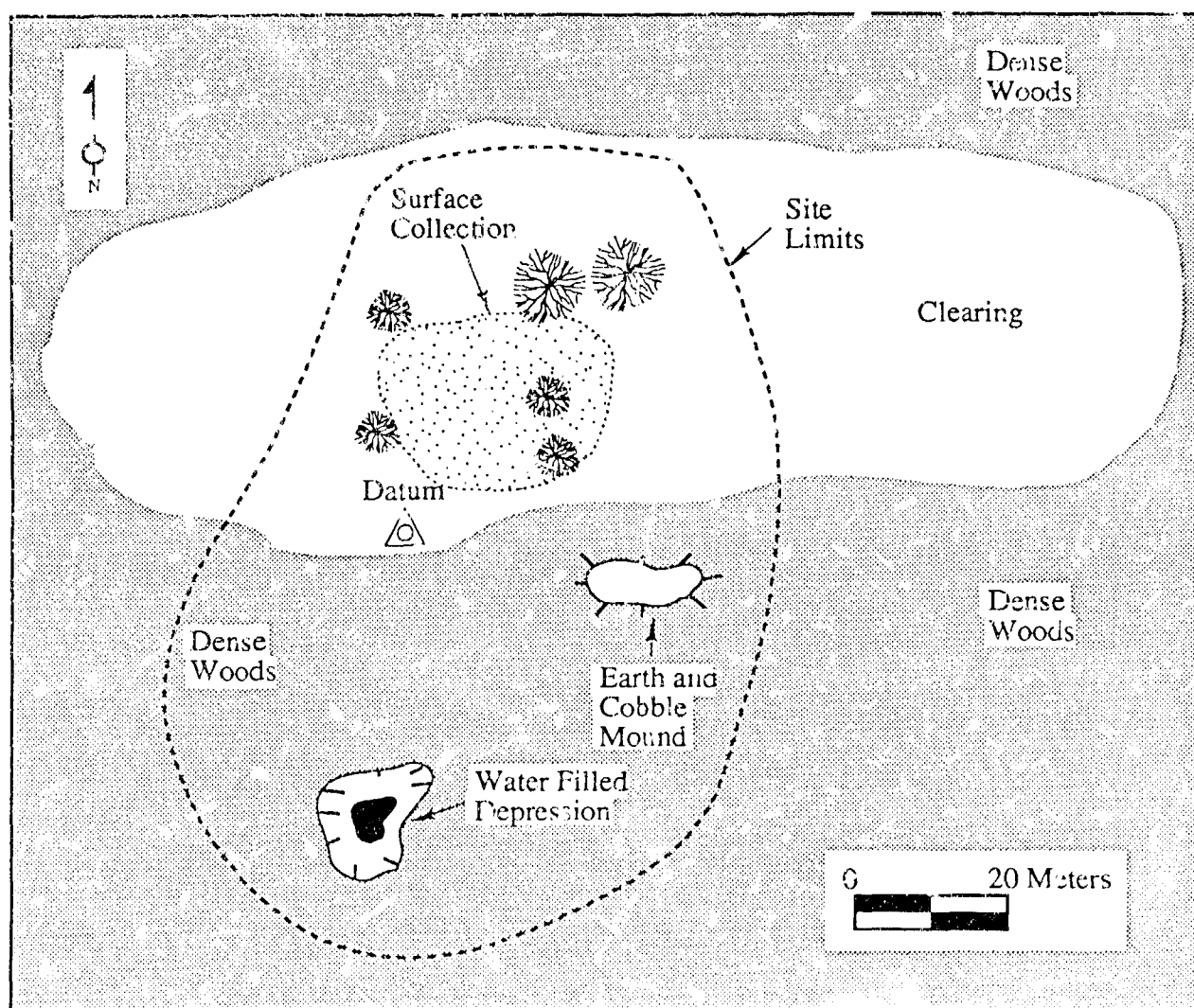


Figure 8-60. Plan of site 41HP177, showing the location of surface-collected area, surface features, and site limits.

deeply incised ceramic (ca. 1850-1860); several pontilled bottle bases and snap case bottles (ca. 1860); and a drawer pull (1881 patent date) also were recovered.

The occupation of site 41HP177 dates ca. 1850-1890, and probably represents a single component. The low incidence of architectural remains suggests that a log structure once was present at this locality, although this could not be confirmed by the present investigations.

The high percentage of ceramics in relation to other artifact categories is similar to other frontier sites in the greater Cooper Lake project area (e.g., 41DT97 and 41DT113).

### *Recommendations*

Site 41HP177, a frontier or early post-frontier farmstead, is located south of the South Sappur River and, as such, should reflect different market access than other frontier sites (e.g., 41DT97 and 41DT113). It has high potential to address the historic material culture and chronology research questions outlined in the Research Design. The short-term occupation and lack of subsequent occupations suggest that this site may be an excellent "time capsule" of a frontier farmstead. It is classified as Category II and may qualify as Category I following further evaluation.

## Site 41HP178

This prehistoric and historic site (Figure 8-61) is located on the slope of the uplands south of the South Sulphur River and 1 km (0.6 mi.) east of Finley Branch. It is situated 134 m (440 ft) above msl on Bezette clay loam soil, 5-12% slopes. The presettlement vegetation was an oak-hickory slope forest. Today the area is used as pasture.

## Stratigraphy

Two natural soil strata were identified at site 41HP178. These are discussed in order from older (lower) to younger (upper).

Stratum I is a light olive brown (2.5Y5/4) clay. It has a gradual upper boundary 0-10 cm below ground surface and was excavated to a maximum depth of 25 cm below ground surface.

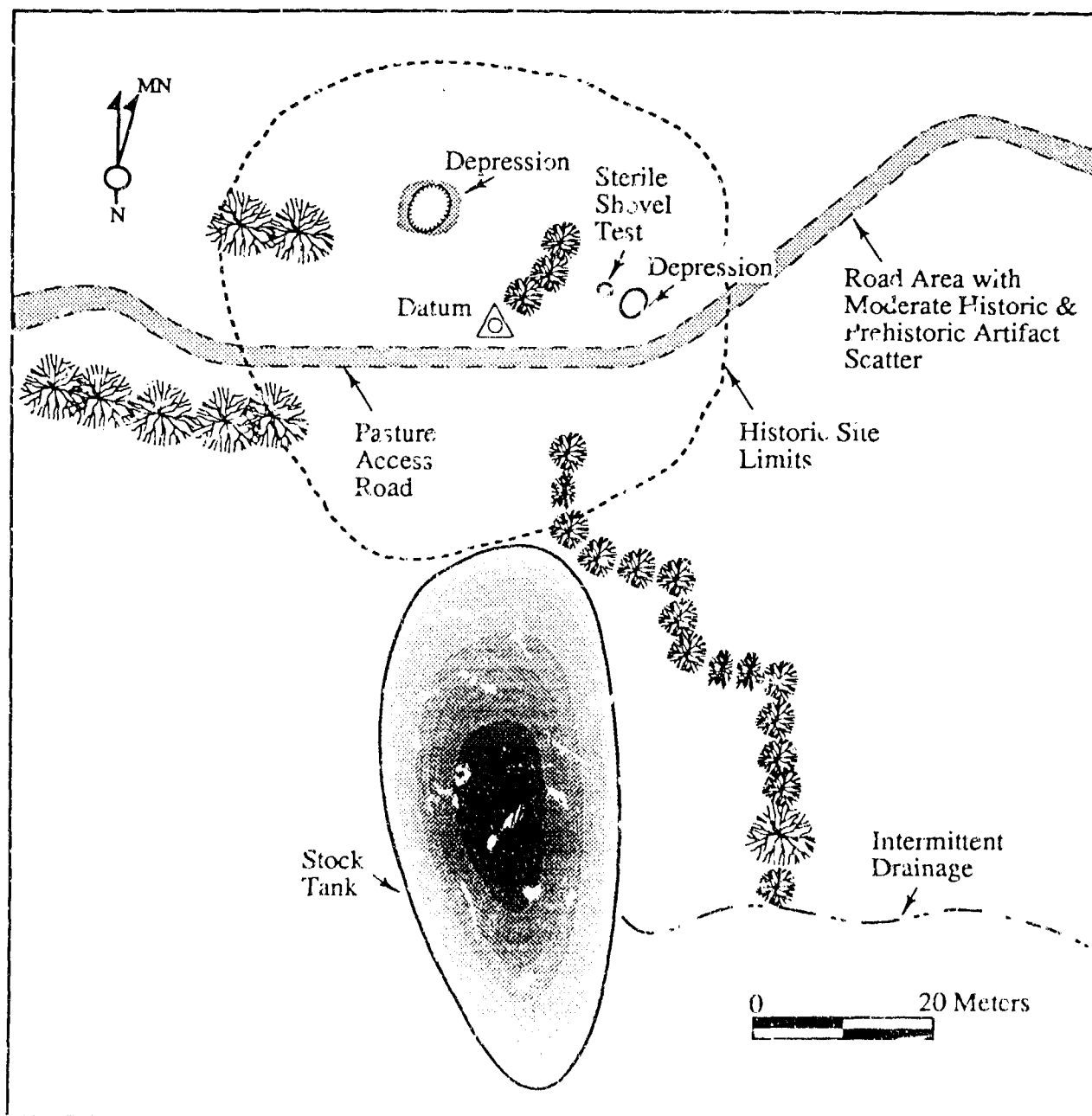


Figure 8-61. Plan of site 41HP178, showing the location of sterile shovel tests, surface artifact concentration, and surface features.

Stratum I is exposed along the western periphery of the site where a stock tank was constructed.

Stratum II is the surface soil stratum. It is a very dark grayish brown (10YR3/2) clay loam. All historic artifacts are assumed to be derived from this stratum.

### *Archival Information*

Site 41HP178 is located on the 170 ha (420 acre) Samuel McCullough Survey (A-588), which was patented to Eli Lindley on 20 May 1872 (Hopkins County Deed Book 107:520). In 1936, site 41HP178 was located on a 29 ha (72 acre) tract which belonged to O. Hendrickson, who lived on the property. He purchased this property and an additional 12 ha (30 acres) for \$1,020 on 18 March 1920 (Hopkins County Deed Book 2:441). In 1936, 9.2 ha (0.5 acre) was reserved for the house, 0.2 ha (0.5 acre) for the garden, 24 ha (59 acres) were in cultivation (7.7 ha [19 acres] in corn, oats, and hay; 16.2 ha [40 acres] in cotton at 0.10 bale per ha [0.25 bale per acre]), and 5 ha (12 acres) were in pasture. A residence with four rooms, measuring 28 ft x 36 ft and built in 1908, was present. In addition, a 12 ft x 16 ft barn, built in 1908, was present. The structures were in poor condition in 1936.

### *Archaeological Investigations*

Fieldwork conducted at this site included a close interval (5 m) pedestrian survey, mapping, and photography. A surface collection was made from the roadbed and around the adjacent stock tank. A single shovel test (35 cm x 35 cm x 35 cm) was excavated, but no artifacts were recovered (see Figure 8-61). No A-horizon soil was present due to intensive erosion. A well depression and scattered trees indicated the probable location of a former dwelling.

Historic period artifacts that were recovered included a blue shell-edged ceramic fragment dating ca. 1850-1870. Other items included stonewares, clear and aqua bottle glass, and metal. Prehistoric artifacts collected from the bank of the stock tank included a fragment of fire-cracked rock and two Ogallala quartzite flakes.

### *Recommendations*

Archival information suggests that this site was occupied by several families. The artifacts suggest an initial occupation of ca. 1850-1860. A field road passes through the site, and modern bottle glass and metal fragments have been discarded along the road in recent years. Archival and informant information do not indicate any historical significance for this property. Erosion and vehicular traffic have reduced the site's integrity. The prehistoric component has been destroyed by the stock tank. The site is classified as clearly not eligible (Category III) for the National Register. Current information indicates that this site has low potential to address the material culture, settlement, and chronological questions presented in the Research Design. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended at this time.

## **DELTA COUNTY SITES**

### **Site 41DT41**

This prehistoric site was recorded as X41DT23 by SMU in 1970. The site is located on Annona loam, 1-4% slopes, at 134 m (440 ft) above msl. In its native state, this was a slope forest consisting of post oak savannah. It has been cleared and intensively cultivated in the past, and it is in second-growth forest today.

### *Stratigraphy*

Three natural strata were identified in BHT 29 (see Chapter 6, Table 6-8) which was excavated within the mapped limits of site 41DT41. These strata are described in order from oldest (lowest) to youngest (uppermost).

Stratum I is a yellowish red (5YR5/8) sandy clay with light brownish gray (10YR6/2) mottles. It has an indistinct upper boundary at 22 cm below ground surface, and was excavated to a maximum depth of 40 cm. It is culturally sterile.

Stratum II is a yellowish red (5YR5/8) sandy clay. It has an abrupt upper boundary at 5 cm below ground surface. It is culturally sterile.

Stratum III is the surface soil stratum, which has been removed from 100% of the site area. It is a very dark gray (10YR3/1) fine sandy loam with strong brown (7.5YR5/6) mottles. No cultural materials were recovered from this stratum in BHT 29.

### *Archaeological Investigations*

In 1970, site 41DT41 had been severely damaged by soil removal. Dart points have been collected by a local resident, Mr. Jarrell. An extensive surface collection of 1,005 items was made from 41DT41 in 1970. The dominant artifact category was flakes (81%). The next most common artifact categories were fire-cracked rock (11%), cores and bifaces (3.7%), and dart points ( $n=6$ ) and retouched pieces ( $n=30$ ; 3.6%). Pottery (0.3%) and ground stone (0.1%) were represented in small quantities. The dart points were contracting stem (i.e., Gary) varieties.

A sample ( $n=816$ ) of lithic materials was identified as to lithic raw material type. Ogallala quartzite comprised 99% of all materials, along with petrified wood ( $n=4$ ), Red River Jasper ( $n=4$ ), and chert ( $n=1$ ). The "Red River Jasper" is actually a green chert derived from the Johns Valley Shale in Oklahoma, which weathers into a tan color (Larry Banks, personal communication 1990).

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation, close interval (5 m) pedestrian survey, mapping, surface collection, and backhoe excavations. The site was relocated during our survey, but the use of the site for borrow dirt has totally destroyed it. A backhoe trench was excavated to determine whether any intact deposits were present.

### *Recommendations*

Due to the extensive disturbance noted above, site 41DT41 has no potential to address the material culture questions outlined in the Research Design. Because the site has been destroyed and fails to meet the criteria of significance, 41DT41

is clearly not eligible for the National Register and is classified as Category IV. No further work is recommended.

### *Site 41DT87*

This historic site was recorded by UNT in 1986 (Perttula 1988a). It is located within the dam axis at 131 m (430 ft) above msl on the ridge spur between Doctors and Big creeks. The soil type is Crockett loam, 1-3% slopes. In its native state, this area was an upland post oak savannah. It has been cleared and intensively cultivated in the past; it is fallow field pasture today.

### *Stratigraphy*

Two natural strata are present within the upper 40 cm of the Crockett loam. These strata are described below in order from older (lower) to younger (upper).

Stratum I is a brown (10YR4/3) clay with distinctive reddish brown (5YR4/4) mottles. It has an abrupt wavy upper boundary at 18 cm below ground surface.

Stratum II is the surface soil horizon, which has been removed by erosion and dam construction in the site area. It is a very dark grayish brown (10YR3/2) loam. All historic artifacts are assumed to be derived from this stratum.

### *Archaeological Investigations*

The site consisted of a scatter of handmade brick and artifacts which included bottle glass, stoneware, cut nails, and window glass. The area has been bulldozed for dam construction. It is reported that this was the original homestead of the Solomon Tucker family, who started the Tucker Cemetery ca. 1880. Subsurface testing in 1986 indicated that few cultural deposits remained intact.

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions observed in 1986 were confirmed. Observations made during the present survey indicate that the site has been even further modified by dam construction activities.

### ***Recommendations***

Due to the extreme disturbance caused by modern land modification, this site has no potential to address the material culture, chronology, or settlement questions outlined in the Research Design. The site's destruction makes it clearly not eligible for the National Register, and hence it is classified as Category IV. No further work is recommended.

#### **Site 41DT88**

This historic site was recorded by UNT in 1986 (Perttula 1988a). It is located at the edge of an upland prairie at 137 m (450 ft) above msl, just east of the Dawson Cemetery (41DT102). The soil type is Crockett loam, 1-3% slopes. In its native state, this area was an upland post oak savannah. It has been clear cut and intensively cultivated in the past and is in fallow field pasture today.

### ***Stratigraphy***

Two natural soil strata are present within the upper 40 cm of the Crockett loam, and were described as a result of 1986 excavations at the site (Perttula 1989b:31-34). These are discussed in order from older (lower) to younger (upper).

Stratum I is a clay-enriched silt loam B-horizon. It is a dark yellowish brown (10YR4/4) clay with mottles. It has an abrupt upper boundary 10-20 cm below ground surface, and was excavated to a maximum depth of 30 cm below ground surface. Cultural materials were confined to the upper 10 cm of this stratum.

Stratum II is the surface soil horizon. It is a dark grayish brown (10YR3/3) silt loam. The majority of historic artifacts were from this stratum.

### ***Archaeological Investigations***

Archaeological survey and informant interviews were conducted in 1996 for site 41DT88. These studies indicated that the site was occupied ca. 1920-1960. A total of three shovel tests were excavated at that time (Perttula 1988a:67). Subsequently, this site received more intensive investigation. A total of 27 shovel tests

(seven sterile) and nine 50 cm x 50 cm units were excavated (Perttula 1989b:29-37).

Features noted at the site in 1986 included a commercial brick chimney base, concrete foundations, and piers from outbuildings covering 0.10 ha (0.25 acre). Wire nails, machine-made bottles, and miscellaneous metal fragments were noted. All cultural remains post-date 1900, and the majority of items suggest a post-WW II to 1970s occupation.

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions that were observed in 1986 were confirmed by the present survey. The site has been even further modified by dam construction activities.

### ***Recommendations***

Due to the recent age and disturbance of its deposits, this site has no potential to address the material culture and settlement questions outlined in the Research Design. The site's destruction makes it clearly not eligible for the National Register, and hence it is classified as Category IV. No further work is recommended.

#### **Site 41DT90**

This historic site was recorded by UNT in 1986 (Perttula 1988a). It is located on a knoll in the broad upland prairie between Doctors and Big Creeks. The soil type is Crockett loam, 1-3% slopes. In its native state, this area was upland prairie. It has been cleared and intensively cultivated in the past, and is in fallow field pasture today.

### ***Stratigraphy***

Two natural soil strata are present within the upper 40 cm of the Crockett loam. These are discussed in order from older (lower) to younger (upper).

Stratum I is a clay-enriched silt loam B-horizon. It is a dark yellowish brown (10YR4/4) clay with mottles. It has an abrupt upper boundary 10-20 cm below ground surface, and was excavated to a maximum depth of 30 cm below

ground surface. Cultural materials were confined to the upper 10 cm of this stratum.

Stratum II is the surface soil horizon. It is a dark brown (10YR3/3) silt loam. The majority of historic artifacts from the site were recovered from this stratum.

### *Archaeological Investigations*

Archaeological survey and informant interviews were conducted in 1986 for site 41DT90 (Perttula 1988a:69-70). These studies indicated that the site was occupied from the 1930s to the 1970s. No further work was recommended at that time.

Features noted at the site in 1986 included a commercial brick chimney base and fall, a commercial brick and concrete cellar, an outbuilding, and two surface trash dumps covering 0.4 ha (1 acre; Perttula 1988a:70). All materials dated ca. 1930-1970. The site has been heavily altered by bulldozing along the dam axis.

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions that were observed in 1986 were confirmed by the present survey. The site has been even further modified by dam construction activities.

### *Recommendations*

Due to the recent age and disturbance of its deposits, this site has no potential to address the material culture or chronology questions outlined in the Research Design. The site's destruction makes it clearly not eligible for the National Register, and hence it is classified as Category IV. No further work is recommended.

### **Site 41DT91**

This historic site was recorded by UNT in 1987 (Perttula 1988a). It is located on a knoll at 137 m (450 ft) above msl on the broad upland prairie between Doctors and Big creeks. The soil type is Crockett loam, 1-3% slopes. In its native state, this area was an upland prairie. It has been cleared and intensively cultivated in the past and is fallow field pasture today.

### *Stratigraphy*

Four natural strata were identified at site 41DT91 by Perttula (1989b:43) in 1987. These strata are discussed in order from oldest (lowest) to youngest (uppermost).

Stratum I, a B-horizon soil, is exposed at ca. 50 cm below ground surface. It is made up of a combination of yellowish red (5YR5/3) clay and strong brown (7.5YR5/6) sandy clay, and is culturally sterile.

Stratum II is composed of a 20 cm wide band of brown (10YR5/3) sandy loam which was also culturally sterile.

Stratum III is a very dark grayish brown (10YR3/2) to a dark brown (10YR3/3) sandy loam. It has an abrupt wavy upper boundary at 20 cm below ground surface. All cultural materials were restricted to this and the upper strata.

Stratum IV is the surface soil horizon, a very dark grayish brown (10YR3/2) loam. All cultural materials were recovered within Strata IV and III.

### *Archaeological Investigations*

Archaeological survey and informant interviews were conducted for site 41DT91 by UNT in 1987. A total of three shovel tests were excavated at that time. Features noted at the site in 1987 (Perttula 1988a:73) included a 35 m<sup>2</sup> brick scatter along the road and a diffuse artifact scatter. All bricks were machine-made. Cut and wire nails, whiteware, and bottle glass were collected.

Informants reported that the site was the homestead of Mr. W. Tharp (1845-1914), but the major occupation at the site, based on the recovered material culture remains, was ca. 1870-1930. Subsequently, this site received more intensive investigation. A total of 24 shovel tests (16 sterile), four 50 cm x 50 cm units, and two 1 m x 1 m units were excavated (Perttula 1989b:37-43).

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions observed in 1987 were confirmed by the present survey. The site has been even further modified by dam construction activities.



### **Recommendations**

The site has been heavily altered by bulldozing along the dam axis. This disturbance and its lack of historical significance indicate that the site has low potential to address the material culture and chronological questions outlined in the Research Design. The site is clearly not eligible for the National Register and hence is classified as Category IV. No further work is recommended.

#### **Site 41ET99**

This historic site was recorded by UNT in 1987 (Perttula 1988a). It is located on an upland promontory at 134 m (440 ft) above msl above the Doctors Creek floodplain. The soil type is Crockett loam, 1-3% slopes. In its native state, this area was upland prairie. It has been cleared and intensively cultivated in the past, and is in fallow field pasture today.

### **Stratigraphy**

Two natural soil strata were identified at 41DT99. These are discussed in order of older (lower) to younger (upper).

Stratum I is a brown (10YR4/2) clay with reddish brown (5YR5/4) mottles. It has an abrupt wavy upper boundary at 20 cm below ground surface. It has been exposed in less than 1% of the mapped area. It is culturally sterile.

Stratum II is the surface soil horizon. It is a very dark grayish brown (10YR3/2) loam. All historic artifacts are assumed to be derived from this stratum.

### **Archaeological Investigations**

Features noted at the site in 1987 (Perttula 1983a:79) include an earthen root cellar, a scatter of machine-made bricks, and wooden piers from a possible out-building. Artifacts noted from shovel tests include window glass, continuous-thread fruit jars, and machine parts. These materials represent a ca. 1940s-1970s occupation. A midden (10-15 cm thick) of sheet refuse was also noted east of the root cellar and brick scatter. No further work was recommended at that time.

Fieldwork conducted under the terms of

Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions that were observed in 1987 were confirmed by the present survey. The site has been even further modified by dam construction activities.

### **Recommendations**

This site will be situated on the shore face of the dam. The recent age of the site's deposits indicate that it has little potential to address the material culture and chronological questions outlined in the Research Design. The site has essentially been destroyed by dam construction and is classified as Category IV. The site is deemed clearly not eligible for the National Register. No further work is recommended.

#### **Site 41DT100**

This historic site was recorded by UNT in 1987 (Perttula 1988a). It is located 134 m (440 ft) above msl along the upper slope of the broad upland overlooking the Doctors Creek floodplain. The soil type is Crockett loam, 1-3% slopes. In its native state, this area was upland prairie. In the past, it was cleared and intensively cultivated. Today it is fallow field pasture.

### **Stratigraphy**

Two natural soil strata were identified at site 41DT100. These are discussed in order from older (lower) to younger (upper).

Stratum I is a dark grayish brown (10YR4/2) clay with reddish brown (5YR5/4) mottles. It has an abrupt wavy upper boundary 0-20 cm below ground surface. It has been exposed in ca. 1% of the mapped site area. It is culturally sterile.

Stratum II is the surface soil horizon. It is a very dark grayish brown (10YR3/2) loam. All historic artifacts are assumed to be derived from this stratum.

### **Archaeological Investigations**

Features noted at the site in 1987 (Perttula 1983a:80) include a commercial- and machine-made brick scatter and rubble mound, a brick-

filled depression, an old roadbed, a stock tank, and a feeder. Artifacts collected include twentieth century stonewares, whitewares, and snuff bottles. Informants report that this was the house of Audra Carro!, dating ca. 1930s-1960s. No further work was recommended at that time.

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions that were observed in 1987 were confirmed by the present survey. The site has been even further modified by dam construction activities.

### *Recommendations*

This site will be located on the shore face of the dam. Due to its recent age and the disturbance in the area, the site has little potential to address the material culture and chronological questions outlined in the Research Design. It has been classified as Category IV. The site is deemed clearly not eligible for the National Register. No further work is recommended.

### **Site 41DT101**

This historic site was recorded by UNT in 1987 (Perttula 1988a). It is located at 136.5 m (448 ft) above risl on a knoll at the southern boundary of the broad upland between Doctors and Big creeks. The soil type is Crockett loam, 1-3% slopes. In its native state, this area was upland prairie. It has been cleared and intensively cultivated in the past and is fallow field pasture today.

### *Stratigraphy*

Two natural soil strata were identified at site 41DT101. These are discussed in order from older (lower) to younger (upper).

Stratum I is a brown (10YR4/2) clay with reddish brown (5YR5/4) mottles. It has an abrupt wavy upper boundary 0-20 cm below ground surface. It has been exposed by bulldozers in ca. 1% of the mapped site area. It is culturally sterile.

Stratum II is the surface soil horizon. It is a very dark grayish brown (10YR3/2) loam. All historic artifacts are assumed to be derived from

this stratum.

### *Archaeological Investigations*

Features noted in 1987 (Perttula 1988a:81) at the site include a handmade and commercial brick scatter and a depression lined with milled wooden boards. Four shovel tests indicated a subsurface cultural deposit ca. 10-15 cm deep. Artifacts recovered include wire nails and machine-made bottles dating from ca. 1930-1970. The commercial bricks were marked with a diamond which may indicate their manufacture by the Diamond Press Brick Co., ca. 1910-1923. No additional work was recommended at that time.

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions that were observed in 1987 were confirmed by the present survey. The site has been even further modified by dam construction activities.

### *Recommendations*

Due to its recent age and intense disturbance by dam construction, the site has low potential to address the material culture and chronological questions outlined in the Research Design. It has been classified as Category IV. The site is deemed clearly not eligible for the National Register because it has no integrity. No further work is recommended.

### **Site 41DT102**

This locality is the Dawson Cemetery, which was recorded by UNT in 1987 (Perttula 1988a). The interments have been relocated to the New Dawson Cemetery. The soil type is Crockett loam, 1-3% slopes. In its native state, this area was upland prairie. It was cleared in the past, and pasture grasses were introduced in the twentieth century.

### *Stratigraphy*

Two natural soil strata were identified in grave shafts at site 41DT102. These are discussed in order from older (lower) to younger (upper)

Stratum I is a dark grayish brown (10YR4/2) clay with reddish brown (5YR5/4) mottles. It has an abrupt wavy upper boundary at 20 cm below ground surface.

Stratum II, a very dark grayish brown (10YR3/2) loam, is the surface soil horizon.

#### *Archival Information*

The earliest headstone in the cemetery is that of T. J. Taylor (1819-1875). Most interments occurred during the 1880-1920 period. In all, 84 graves were mapped by the CE Real Estate Division. The most recent burial was in 1984. The Dawson Cemetery is similar to the Liberty Grove Cemetery, in that burials began in the 1880s and continued at a relatively steady rate through the 1930s. The use of the cemetery continued through the 1940s to 1980s, but due to reductions in the local population the annual interments for these later years became relatively low.

#### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included a brief visit during disinterment activities. Additional investigations were not specified under the scope of work.

#### *Recommendations*

Due to the nature of this site, and its removal, it has been classified as Category IV. The site is clearly not eligible for the National Register because of its lack of archaeological integrity. No further work is recommended.

#### **Site 41DT103**

This prehistoric site was recorded and evaluated by the UNT in 1986 and 1987 (Pertulla 1988a). It is located on a ridgetop at 126.5 m (±15 ft) above msl, 6 m (20 ft) above the South Sulphur floodplain. The soil type is Annona loam, 1-4% slopes. In its native state, this was a mixed hardwood slope forest. It was cleared in the past and is in fallow field pasture today.

#### *Stratigraphy*

The single natural soil horizon identified at 41DT103 is a dark grayish brown (10YR4/2) loam with yellowish brown (10YR5/4) mottles. A surface soil horizon, the upper boundary of this stratum, ranges 0-24 cm below ground surface. All cultural materials are assumed to be derived from this stratum.

#### *Archaeological Investigations*

Two backhoe trenches were excavated at this site by UNT (Pertulla 1988a:44-46), but no cultural material was encountered in these subsurface investigations. Flakes and fire-cracked rock were noted on the ridgetop at that time. No further work was recommended.

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions that were observed in 1986 and 1987 were confirmed by the present survey. The site has been even further modified by dam construction activities.

#### *Recommendations*

Due to the low density of material, lack of temporally diagnostic artifacts and subsistence-related remains, shallow soil, and recent land clearance, the site has low potential to address the material culture and chronological questions outlined in the Research Design. It has been classified as Category IV. The site is deemed clearly not eligible for the National Register. No further work is recommended.

#### **Site 41DT118**

This historic site was recorded by SMU in 1987 (Moir, McGregor, and Journey 1993). It is located west of the Dawson Cemetery, at the edge of the upland prairie between Doctors and Big creeks. Soil type is Crockett loam, 1-3% slopes. In its native state, it was an upland prairie fringed by post oak savannah. Cleared and intensively cultivated in the past, the site presently is fallow.

### *Stratigraphy*

Two natural soil strata were identified at site 41DT118. These are discussed in order from older (lower) to younger (upper).

Stratum I is a dark grayish brown (10YR4/2) clay with reddish brown (5YR5/4) mottles. It has an abrupt wavy upper boundary 15-20 cm below ground surface, and is culturally sterile.

Stratum II is the surface soil horizon, a very dark grayish brown (10YR3/2) loam. All historic artifacts are derived from this stratum.

### *Archival Information*

Archival researches and informant interviews were conducted to establish the site's previous occupants and its historical significance. This was the initial homestead of Zephriah (sic) Dawson, who occupied it from the 1850s to the 1880s. Zephriah Dawson and his wife, Asenith, were born in Pennsylvania and came to Texas from Illinois with six children. All of the Dawson children were born in Illinois. Dawson was listed on the 1853 tax rolls and received 129.5 ha (320 acres) in 1854. This family was one of the first to settle in the region.

### *Archaeological Investigations*

Only a light brick scatter and a small depression were noted during the 1987 survey (Green 1993a). Subsequently, intensive data recovery was performed. Subsurface remains covered 2,000 m<sup>2</sup> and included a handmade-brick chimney base, dense sheet refuse, and a buried well. An assemblage of 12,947 artifacts was recovered from features and sheet refuse deposits at this site, and includes ironstone whitewares (red shell edge), cut nails, late nineteenth century medicine bottles, and ground lip fruit jars (Green 1993a).

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. The field and site conditions that were observed in 1987 were confirmed by the present survey.

### *Recommendations*

Intact features and sheet refuse deposits remain at the site. Due to the intact features and short time frame of the occupation at this site, it has high potential to address questions outlined in the Research Design. This site was determined to be eligible (Category I) for the NRHP and was mitigated through extensive data recovery. Since the completion of that data recovery program, the site is now classified as Category III. A substantial portion of the site remains intact. Future development plans could take into account the historic significance and interpretive value of this cultural resource, perhaps incorporating it as a public education facility in the master planning for public parks.

### **Site 41DT119**

This historic site was reported by SMU in 1987 (Moir, McGregor, and Jurney 1993). It is located along the Bonham to Jefferson Road, 4 km (2.5 mi) south of Cooper. The soil type is Crockett loam, 1-3% slopes. In its native state, this was an upland prairie fringed by post oak savannah. It has been cleared in the past, and is in fallow field pasture today.

### *Stratigraphy*

Two natural soil strata were identified at site 41DT119. These are discussed in order from older (lower) to younger (upper).

Stratum I is a dark grayish brown (10YR4/2) clay with reddish brown (5YR5/4) mottles. It has an abrupt wavy upper boundary 0-20 cm below ground surface. It has been exposed by erosion and road construction in ca. 1% of the site area. This stratum is culturally sterile.

Stratum II is the surface soil horizon, a very dark grayish brown (10YR3/2) loam. All historic artifacts are derived from this stratum.

### *Archaeological Investigations*

Fieldwork conducted in 1987 consisted of

testing for National Register eligibility (Jurney, Green, and Moir 1993). The site consisted of a small, mounded, handmade-brick scatter, several depressions related to recent cattle operations, and wooden cattle feeders covering 3,000 m<sup>2</sup> (262 acres).

In all, 19 units were excavated, producing 714 artifacts dating from the late nineteenth to the mid-twentieth centuries. Artifacts included a pontil bottle base, salt vapor stoneware, horse and farm implements, window glass, and cut and wire nails.

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. A permanent datum was placed at the site.

### *Recommendations*

The heavy twentieth century occupation and use of this site for cattle operations have impacted its archaeological integrity, although potentially intact cultural features do remain at this locality. Due to the potential presence of features and an early occupation at this site, the archaeological deposits may contain information relevant to the material culture and chronological questions outlined in the Research Design. Despite this research potential, however, the site has been classified as Category III due to its overall lack of archaeological integrity. No further work is recommended.

### **Site 41DT120**

This historic site was recorded by SMU in 1987 (Moir, McGregor, and Jurney 1993). It is located on the Bonham to Jefferson Road. The soil type is Crockett loam, 1-3% slopes. In its native state, this was an upland prairie fringed by post oak savannah. It has been cleared in the past and is in fallow field pasture today.

### *Stratigraphy*

Two natural soil strata were identified at site 41DT120. These are discussed in order from older (lower) to younger (upper).

Stratum I is a dark grayish brown (10YR4/2) clay with reddish brown (5YR5/4) mottles. It has an abrupt wavy upper boundary 0-20 cm below

ground surface. It has been exposed by road construction and erosion in ca. 10% of the site area.

Stratum II is the surface soil horizon. It is a very dark grayish brown (10YR3/2) loam. All historic artifacts are derived from this stratum.

### *Archaeological Investigations*

Fieldwork conducted in 1987 included testing to determine the site's National Register eligibility (Jurney, Green, and Moir 1993). The original yardscape (900 m<sup>2</sup>) is intact, and the site covers a total area of 3,200 m<sup>2</sup>, including a barn and corrals. Artifacts noted include machine-made brick, wire nails, clear bottle glass, Bristol stoneware, and personal items, all dating ca. 1925-1950.

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey.

### *Recommendations*

The sheet refuse and features at this site are intact, but most material remains are less than 50 years old. Due to the recent age of its deposits and landscape modifications, this site has low potential to address the material culture and chronological questions outlined in the Research Design. Site 41DT120 is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, the site will be reevaluated for eligibility. No further work is recommended.

### **Site 41DT148**

This historic site (Figure 8-62) is located at 131 m (430 ft) above msl near the junction of the toe slope and floodplain of Doctors Creek, along FM 1880. The soil type is Wilson silt loam, 0-2% slopes. The Wilson soil is a deep loamy soil which cracks severely when dry. In its native state, this area was a mixed prairie with adjacent hardwood slope forest.

### *Stratigraphy*

A single natural soil stratum was identified at

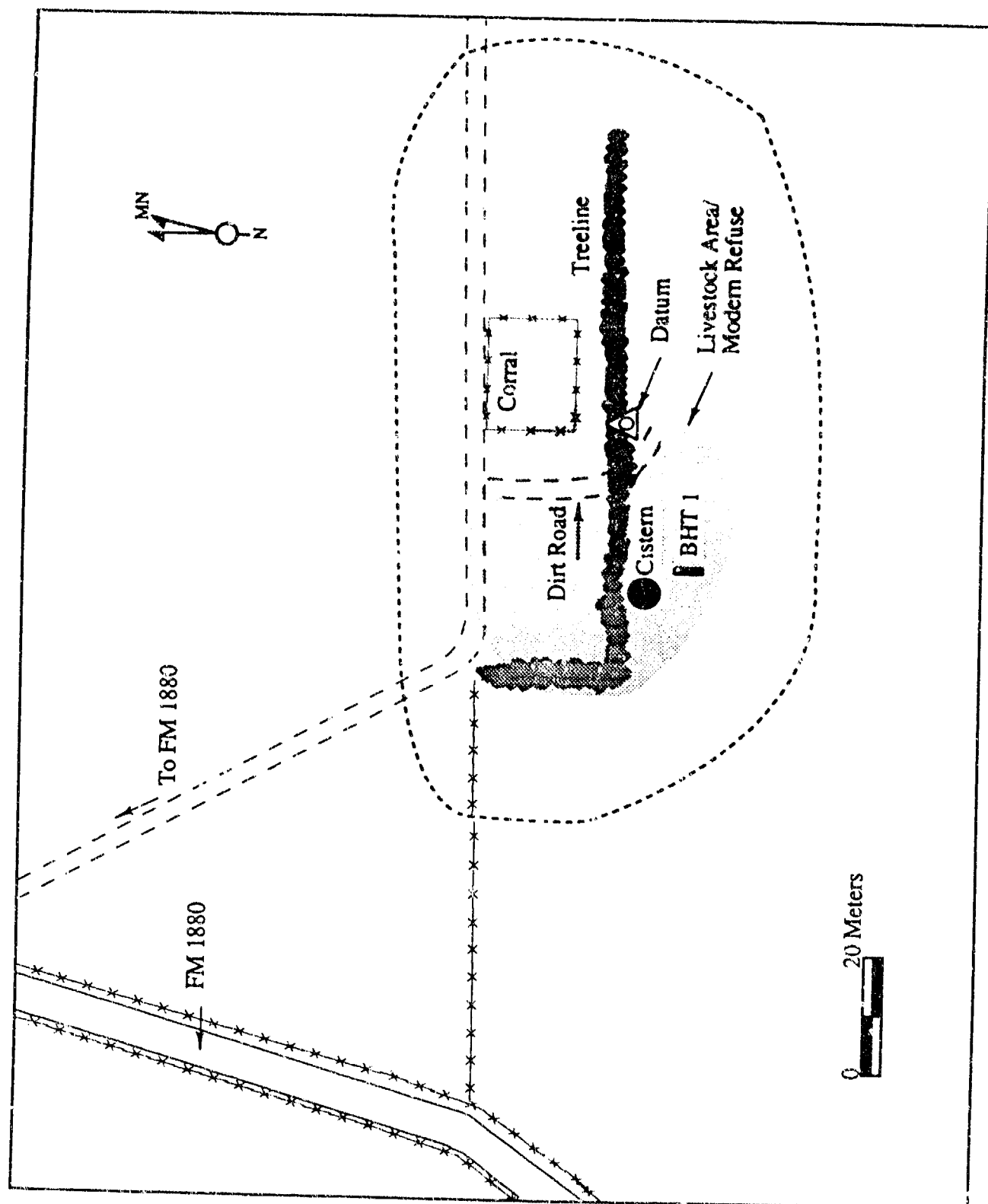


Figure 8-62. Plan of site 41DT148, showing the location of backhoe and datum excavations, surface features, and site limits.

41DT148. This soil has a shallow (10 cm) A-horizon over a dense clay which varies from 25-40 cm deep.

### *Archival Information*

Site 41DT148 is located on the B. Williams Survey (A-387), which is one of two tracts granted to B. Williams on 17 September 1858 (Delta County Deed Book 47:407). In 1936, site 41DT148 was part of a 28.3 ha (70 acre) tract owned by L. B. Clower, a resident of Pecan Gap who purchased the tract on 5 May 1935 (Delta County Deed Book 72:121) and maintained a tenant residence there. At that time a single-story, three-room dwelling (28 ft x 24 ft), a shed, and a barn were present on the property, all of which were listed as in poor condition. The land was characterized as "second bottom," with 0.4 ha (1 acre) reserved for the house, 12.8 ha (31.7 acres) in cultivation, 10 ha (25 acres) in pasture, 4 ha (10 acres) in meadow, and 1.2 ha (3 acres) of wasteland. Only 1.2 ha (3 acres) were devoted to feed crops (corn), and the remainder was planted in cotton.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 consisted of mapping the surface features at the site and the excavation of a single shovel test (35 cm x 25 cm x 35 cm) for the permanent datum (see Figure 8-62). No artifacts were noted in the shovel test. Excavation of a 2 m long, 15 cm deep backhoe trench (BHT 1) indicated that the site's deposits extended to a depth of ca. 15 cm. The site consists of a historic artifact scatter, a cistern, and a corral covering a central area of 1,000 m<sup>2</sup> (with other features and components spread across an additional 6,000 m<sup>2</sup>).

Artifacts collected from the site include three whiteware fragments, one stoneware sherd, six bottle glass fragments, two cut nails, and two fragments of iron. The glass colors included three manganese solarized (two table glass, one small round bottle), two blue green (fruit jar), and one pale green (table glass fragment). All remains have dates ranging from ca. 1900 to 1950. Modern refuse has been dumped over the entire site and mixed with the turn of the century remains by

livestock which have been stabled on the site.

### *Recommendations*

The age of artifacts collected and/or noted on the surface, combined with the archival information, indicate that site 41DT148 was occupied until the mid-twentieth century, when it was no longer shown on the 1951 highway map. Nothing outstanding or historically significant was identified about the former tenants, further supporting the site's lack of archaeological significance. Finally, the use of the site for livestock has contributed post-1950 artifacts, and livestock have trampled and disturbed some parts of the site. Due to the lack of defined features and intact deposits, this site has low potential to address the questions outlined in the Research Design. It is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

### **Site 41DT149**

This prehistoric site (Figure 8-63) is located in the floodplain of Doctors Creek at 131 m (430 ft) above msl. The site covers ca. 2,000 m<sup>2</sup> (21,528 ft<sup>2</sup>) and consists of numerous small flakes exposed in erosional areas. The soil series is within the Freestone-Hicota complex, characterized by "pinple" mounds. These mounds are ubiquitous features in certain areas of Doctors Creek, and frequently contain low-density scatters of prehistoric materials.

### *Stratigraphy*

Four natural strata were identified during excavations of BHT 2 at site 41DT149. These are discussed in order from oldest (lowest) to youngest (uppermost).

Stratum I is a dark gray (10YR4/1) to very dark gray (10YR3/1) sandy clay loam with light brownish gray (10YR6/2) and strong brown (7.5YR5/8) mottles. It has an abrupt, wavy upper boundary at 45 cm below ground surface and was excavated to a maximum depth of 97 cm below ground surface. It is culturally sterile.

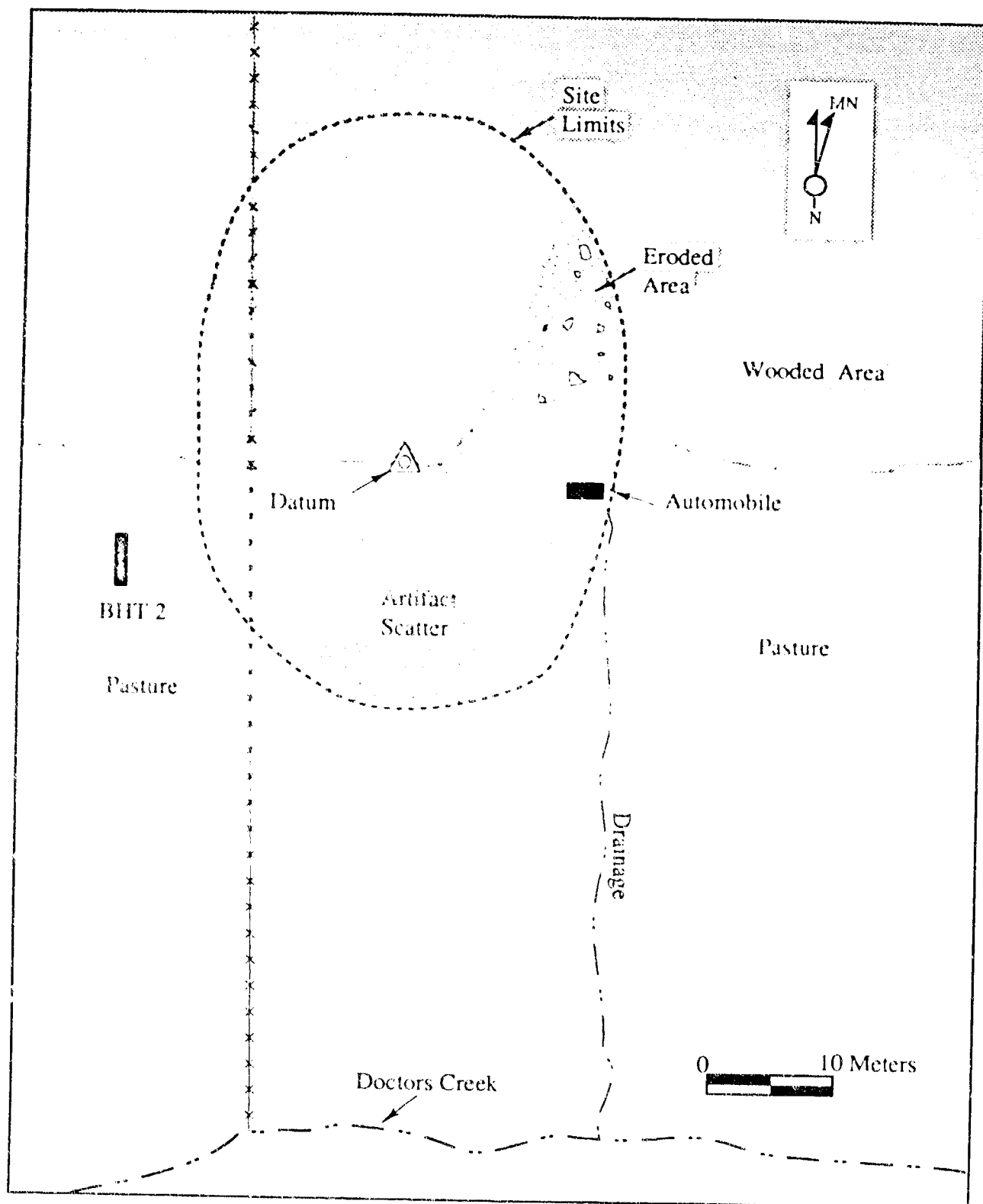


Figure 8-63. Plan of site 41DT149, showing the location of surface artifact scatter, the permanent datum, surface features, and site limits.



Stratum II is a gray (10YR6/1) to dark gray (10YR4/1) silty clay loam with strong brown (7.5YR5/8) mottles. It has a gradual upper boundary at 35 cm below ground surface. It is culturally sterile.

Stratum III is a dark gray (10YR4/1) to light brownish gray (10YR6/2) silty clay loam with strong brown (7.5YR5/8) mottles. It has a gradual, wavy upper boundary 10-15 cm below ground surface, and is culturally sterile.

Stratum IV is the surface soil horizon. It is a light brownish gray (10YR6/2) silt loam with pale brown (10YR6/3) mottles. All artifacts (prehistoric flakes and fire-cracked rock) were confined to this stratum. This stratum was culturally sterile in BHT 2.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 consisted of surface reconnaissance (20 m intervals) of the landform containing site 41DT149. The eastern and southern portions have suffered considerable erosion, with good ground surface visibility (50-80%) in areas where the cattle have grazed. A single Ogallala quartzite biface was collected from the eroded surface. A single shovel test measuring 25 cm x 25 cm x 35 cm was excavated and used for the permanent datum (see Figure 8-62). No artifacts were recovered from this unit.

### *Recommendations*

Archaeological and geomorphological examinations of this type of landform indicate that there is little potential for intact and spatially separated cultural materials. No temporally diagnostic items were recovered from site 41DT149. The low density of remains that were observed at the site, the lack of any *in situ* deposits, and the lack of temporally diagnostic materials also reduce the site's potential to yield information relative to the material culture and chronological questions outlined in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

## **Site 41DT150**

This prehistoric site (Figure 8-64) is a low pimple mound on a slightly elevated landform at 130 m (426 ft) above msl and covering ca. 300 m<sup>2</sup> (3,229.2 ft<sup>2</sup>). The soil is classified as Hicota, which is part of the Freestone-Hicota complex. The Hicota soil is on the mound and the Freestone soil is between the mounds (Ressel 1979). In its native state, this area was a mixed hardwood slope forest. It has been cleared in the past and is in fallow field pasture today.

### *Stratigraphy*

Two natural strata were identified in the excavation of BHT 3 at site 41DT150. These are discussed in order from older (lower) to younger (upper).

Stratum I is a light yellowish brown (10YR6/4) to light brownish gray (10YR6/2) silt loam. It has a gradual, wavy upper boundary at 7 cm below ground surface, and was excavated to a maximum depth of 37 cm below ground surface. Five fire-cracked rocks and five prehistoric flakes were recovered from this stratum; an additional flake was collected 10 cm below ground surface.

Stratum II is the surface soil horizon. It is a dark grayish brown (10YR4/2) silt loam which is culturally sterile in BHT 3.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 consisted of surface collection, the excavation of a single 2 m long backhoe trench, and the excavation of a single 25 cm x 25 cm x 35 cm shovel test which was used for the permanent datum (see Figure 8-64). The backhoe trench was excavated to 150 cm below ground surface. Based on the soil depth, it is estimated that the site deposit is from 7-37 cm below ground surface. In all, 10 artifacts were collected from the site, with a single biface recovered from the backhoe trench. Other materials that were collected from the surface of the site include five broken flakes, three unworked cobbles, and one irregular flake or shatter. All artifacts are Ogallala quartzite.

Although no temporally diagnostic artifacts

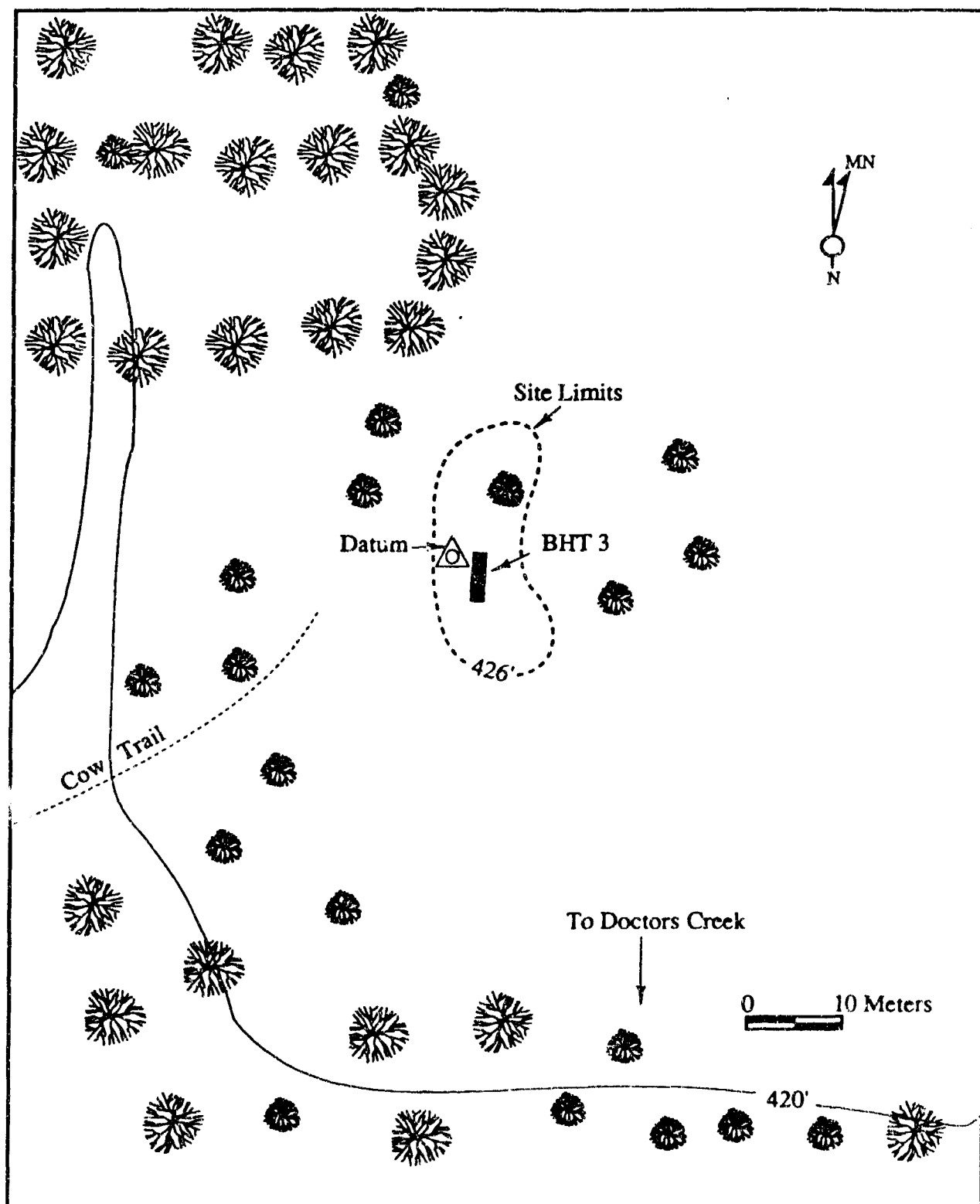


Figure 8-64. Plan of site 41D 7150, showing the location of BHT 3, surface features, and site limits.

were recovered from site 41DT150, a possible Archaic occupation is suggested by the absence of ceramics, the relatively large biface, and the low density of the remains. However, a specialized activity use of this site by Late Prehistoric peoples cannot be ruled out. There is not enough evidence at hand to make secure statements regarding the site's cultural or temporal affiliations.

### *Recommendations*

Modern land clearing and plowing have altered the integrity of the upper 15-20 cm of site 41DT150. Low-density scatters on the Hicota mounds are common along Doctors Creek, and few exhibit potential stratification (cf. a possible exception to this pattern at site 41DT154; see below). Since there is a high level of bioturbation, the remains are so infrequent, and there were no temporal diagnostics identified at this site, there is low potential for addressing the prehistoric material culture and chronological research questions outlined in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. No further work is recommended.

### **Site 41DT151**

This prehistoric site (Figure 8-65) is also a low pimple mound with few artifacts visible. The soil is classified as Hicota, which as part of the Freestone-Hicota complex and is characterized by the presence of "pimple" mounds. These mounds are ubiquitous features in certain areas of Doctors Creek and frequently contain low-density scatters of prehistoric materials. In its native state, this area was a mixed hardwood slope forest. It has been cleared and intensively cultivated in the past, and is in fallow field pasture today.

### *Stratigraphy*

Three natural strata were identified in excavations of BHT 6 at site 41DT151. These strata are discussed in order from oldest (lowest) to youngest (uppermost).

Stratum I is a light gray (10YR7/1) sandy clay loam with gray (10YR5/1) and strong brown (7.5YR5/8) mottles. It has a gradual upper

boundary at 45 cm below ground surface and was excavated to a maximum depth of 85 cm below ground surface.

Stratum II is a pale brown (10YR6/3) silt loam. It has a distinct, wavy upper boundary at 4 cm below ground surface. A single prehistoric flake was recovered from this stratum in BHT 6.

Stratum III is the surface soil horizon, a dark gray (10YR4/1) silt loam. It is culturally sterile in BHT 6.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, and backhoe excavations. Flakes were the only artifacts noted in the backhoe trench excavated at the site.

### *Recommendations*

On the basis of the artifacts collected, an undifferentiated prehistoric utilization of this site is indicated. Due to the low density of the remains and the lack of temporal diagnostics, the site has low potential to address the material culture and chronological questions outlined in the Research Design. It is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

### **Site 41DT152**

Site 41DT152 is a prehistoric site located along the west bank of Cannon Creek at 131 m (430 ft) above msl. The soil is classified as Hicota. In its native state, this floodplain area contained a mixed hardwood forest. It has been cleared in the past, and is in second-growth forest today.

The area of the site is confined to a single pimple mound which covers ca. 100 m<sup>2</sup> (1,076.4 ft<sup>2</sup>). An intermittent drainage (Figure 8-66) separates this mound from another mound situated 20 m to the north. A third mound is situated 60 m (196.8 ft) to the north. These latter two mounds were tested via backhoe (i.e., BHTs 10 and 12, respectively), but no cultural materials were

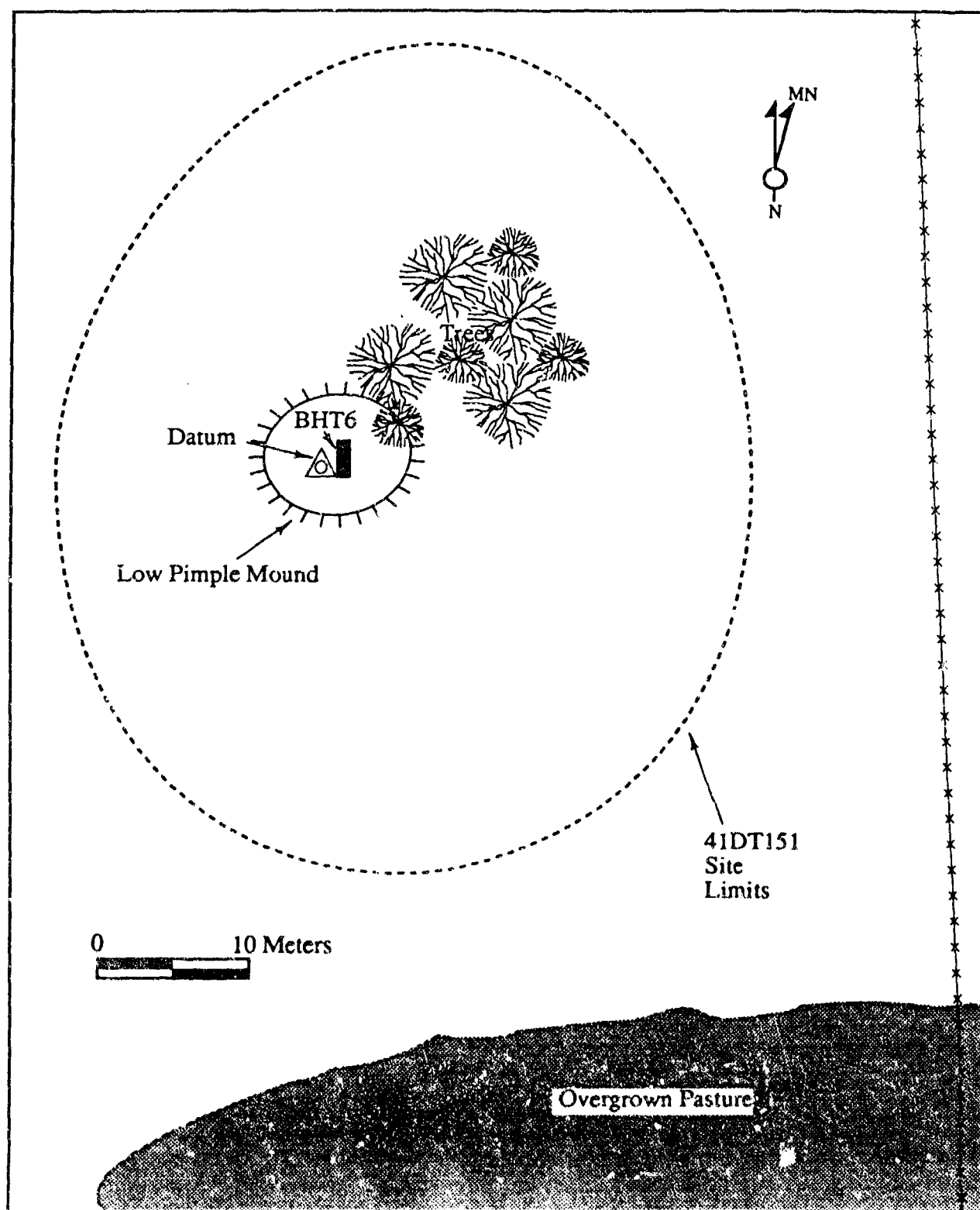


Figure 8-65. Plan of site 41DT151, showing the location of backhoe and datum excavations performed on a "pimple" mound within the site limits.

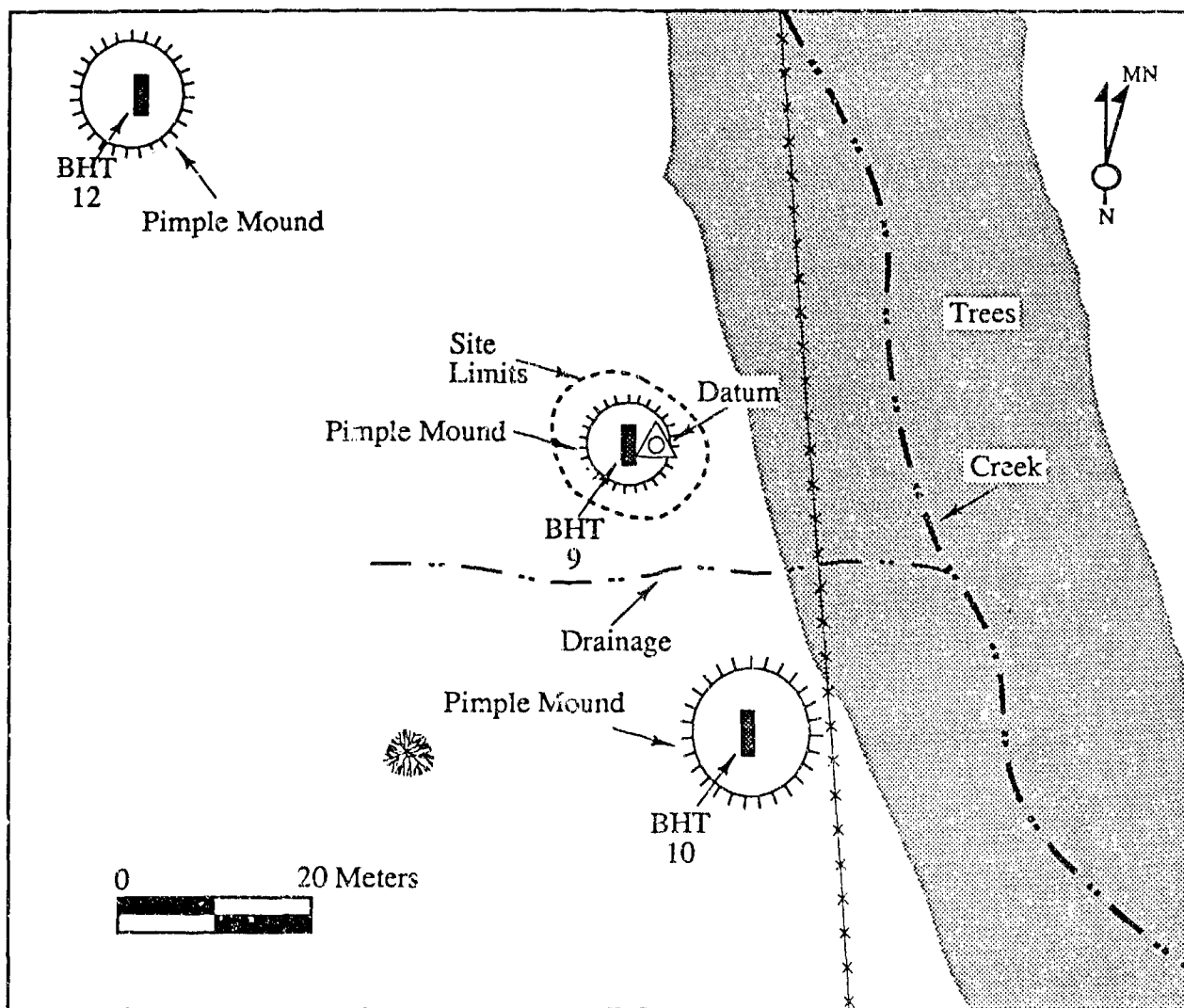


Figure 8-66. Plan of site 41DT152, showing location of surface features, backhoe and datum excavations, and site limits.

observed. Several additional mounds were present in the dense vegetation along Cannon Creek, but these were not examined due to considerations of health and safety. The sewage disposal plant for the city of Cooper, situated immediately upstream from this site, had recently overflowed, thereby contaminating the vegetation and soil and creating a health hazard.

#### *Stratigraphy*

Two natural soil strata were identified in BHT 9 at site 41DT152. The strata within the cultural deposit are described in order from older (lower) to younger (upper).

Stratum I is a pale brown (10YR6/3) silt loam with light brownish gray (10YR6/2) mottles. It has a gradual, wavy upper boundary at 4 cm below ground surface and was excavated to a maximum depth of 45 cm below ground surface. Fourteen prehistoric flakes and five fire-cracked rocks were recovered from this stratum.

Stratum II, a dark gray (10YR4/1) silt loam, is the surface soil horizon. It is culturally sterile in BHT 9.

#### *Archaeological investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 consisted of surface

collection of all exposed materials, the excavation of three 5 m long backhoe trenches through the mounds (one trench on the site and two in the vicinity; see above), and the excavation of a single 25 cm x 25 cm x 35 cm shovel test which was used to place the permanent datum (see Figure 8-66). No artifacts were recovered from this shovel test, nor were any recovered from BHTs 10 and 12.

An assemblage of 12 artifacts (all Ogallala quartzite flakes) was recovered from BHT 9. Only two (16.7%) of these flakes were whole, and the other 10 (83.3%) were broken. Nineteen fragments of fire-cracked rock (Ogallala quartzite) were counted and photographed, but not collected. Since no temporally diagnostic artifacts were recovered from 41DT152, its occupation and/or use can only be termed undifferentiated prehistoric.

### *Recommendations*

This site will be submerged within the floodpool. Based on the low-density remains, the lack of intact cultural features, and the absence of temporally diagnostic artifacts, it has little potential to address the prehistoric material culture and chronological research questions outlined in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. No further work is recommended.

### **Site 41DT153**

This multicomponent prehistoric and historic site (Figure 8-67) is situated at 135.6 m (445 ft) above msl on an upland finger of the interfluvium between Cannon Creek and an unnamed tributary. The soil type is Annona loam, 1-4% slopes. In its native state, this area was a mixed hardwood slope forest. It has been cleared and intensively cultivated in the past, and is in fallow field pasture today.

### *Stratigraphy*

Two natural soil strata were identified in the three backhoe trenches excavated within site 41DT153. The stratigraphy identified in BHT 2 is described below in stratigraphic order from older

(lower) to younger (upper).

Stratum I is a light brownish gray (10YR6/2) silt loam with light yellowish brown (10YR5/8) mottles. It has a gradual upper boundary at 8 cm below ground surface, and was excavated to a maximum depth of 56 cm below ground surface. Small pebbles were found throughout. Seven fire-cracked rocks and two flakes were recovered within this stratum, 37-43 cm below ground surface, in nearby BHT 19.

Stratum II is the surface soil horizon, a dark grayish brown (10YR4/2) silt loam with brownish yellow (10YR6/8) mottles. It is culturally sterile.

### *Archival Information*

The 1936 Tax Survey indicates a two-room dwelling on the J. F. Henslee tract. Henslee lived in Cooper. Local informants do not recall the names of any tenants, but the area was known as the Chapman Pasture.

### *Archaeological Investigations*

Field work conducted under the terms of Delivery Order Number 6 included site relocation and close interval (5 m) pedestrian survey. In addition, three backhoe trenches were excavated within the site and three others were excavated along the site's eastern periphery (see Figure 8-67).

The site covers over 50,000 m<sup>2</sup>. Prehistoric materials include three Gary dart points, eight bifaces, and whole and broken flakes recovered from 6-69 cm below ground surface (Figure 8-68). Whole (41.4%) and broken (51.0%) flakes constitute the majority of prehistoric artifacts recovered from the site. Additional prehistoric artifacts present in low frequencies include fire-cracked rock (2.9%), unworked cobbles (2.0%), bifaces (1.2%), unifaces (0.6%), and cores (0.3%); see Figure 8-68). Historic artifacts include ca. 1890-1930 milk glass, bottle glass, stonewares, handmade brick, whitewares, wire fragments, and one centerfire cartridge.

### *Recommendations*

Due to land clearance and active soil processes, the site's prehistoric and historic

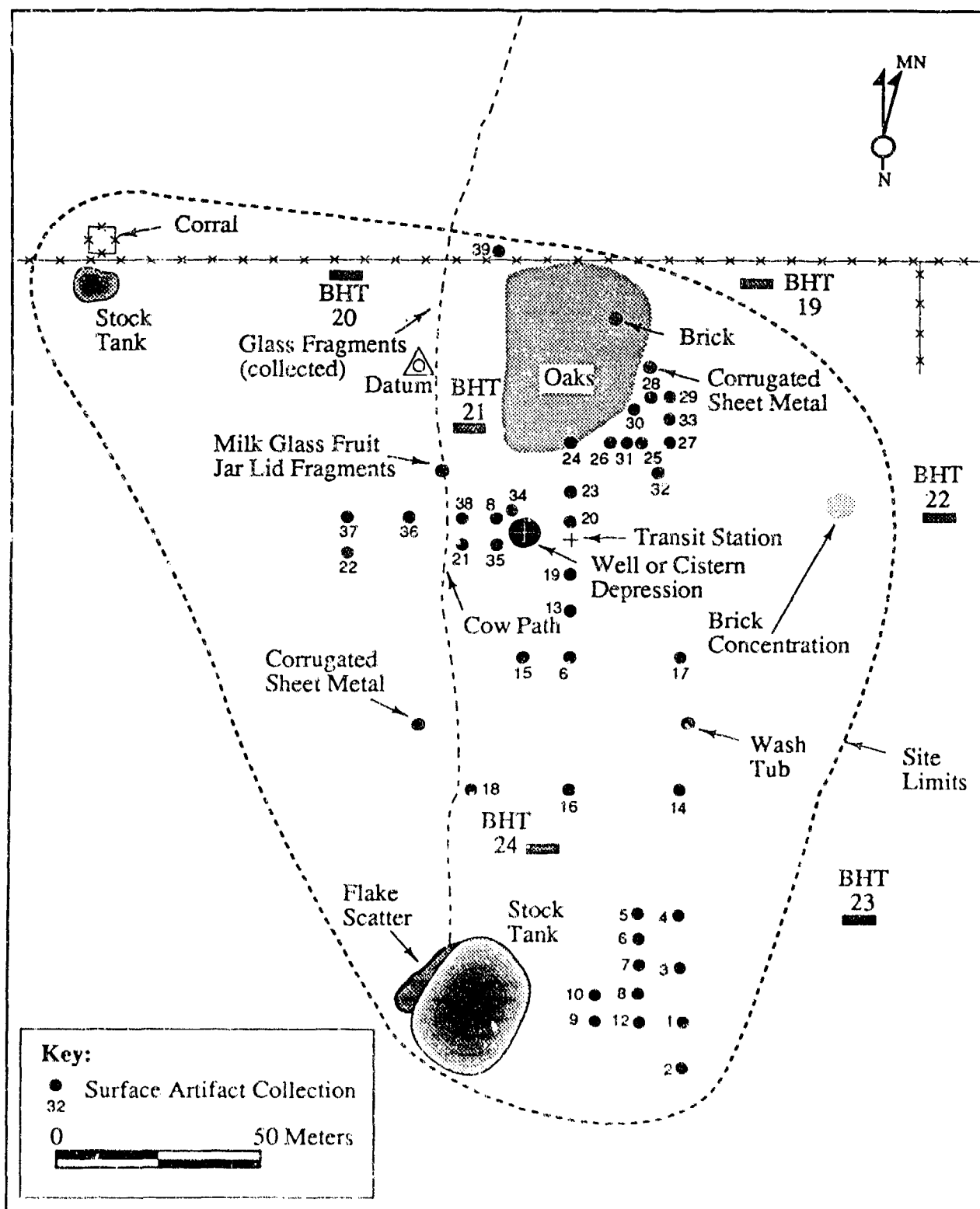


Figure 8-67. Plan of site 41DT153, showing locations of piece-plotted surface artifacts (designated by arabic numerals), backhoe and datum excavations, surface features, and site limits.



Figure 8-68. Flaked stone artifacts from site 41DT153, Cooper Lake Delivery Order Number 6 study area. Top row (left-right): Gary dart point fragment (BHT 21, 50-56 cm), Gary dart point fragment (BHT 25, 13 cm), Gary dart point (BHT 25, 55 cm). Bottom row (left-right): Biface fragment (EU S15 W45, 0-47 cm), uniface (BHT 26, backdirt), biface (BHT 27, 32-37 cm).

deposits appear to have been mixed stratigraphically. Test excavations did not encounter any intact archaeological components. Due to this lack of integrity, the site has low potential to address the material culture and chronological questions outlined in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

#### Site 41DT154

This complex multicomponent prehistoric and historic site (Figure 8-69) is situated on an upland interfluvium between two unnamed tributaries of Cannon Creek along the original Bonham to Jefferson Road. Elevations at the site range from 135-137 m (442-450 ft). The mapped soil type is Annona silt loam, 1-4% slopes (Ressel 1979). The original vegetation was post oak savannah and slope forest which fringed a broad upland prairie.

Site 41DT154 is composed of a prehistoric

component (i.e., the southwestern locus) and a Historic period "complex" which is in turn composed of three distinct components (i.e., the northwestern, eastern, and house loci). The prehistoric southwestern locus is situated on a remnant knoll flanked by two intermittent tributaries of Cannon Creek (see below; see Figure 8-69). The Historic period complex is located in nearly level pasture that has been used for cattle grazing. Mapped soil for the complex is Annona silt loam, 1-4% slopes (Ressel 1979). Elevation of the complex ranges from a low of 135 m (442 ft) above msl at the northwestern locus to a high of 137 m (450 ft) above msl at the eastern locus.

#### Stratigraphy

A minimum of two and a maximum of four natural soil strata were identified in the six backhoe trenches excavated at site 41DT154. The two deepest trenches (i.e., BHTs 33 and 36; see Table 6-7) produced similar profiles. The four strata identified in BHT 33, which provides the best representation of the entire site's,



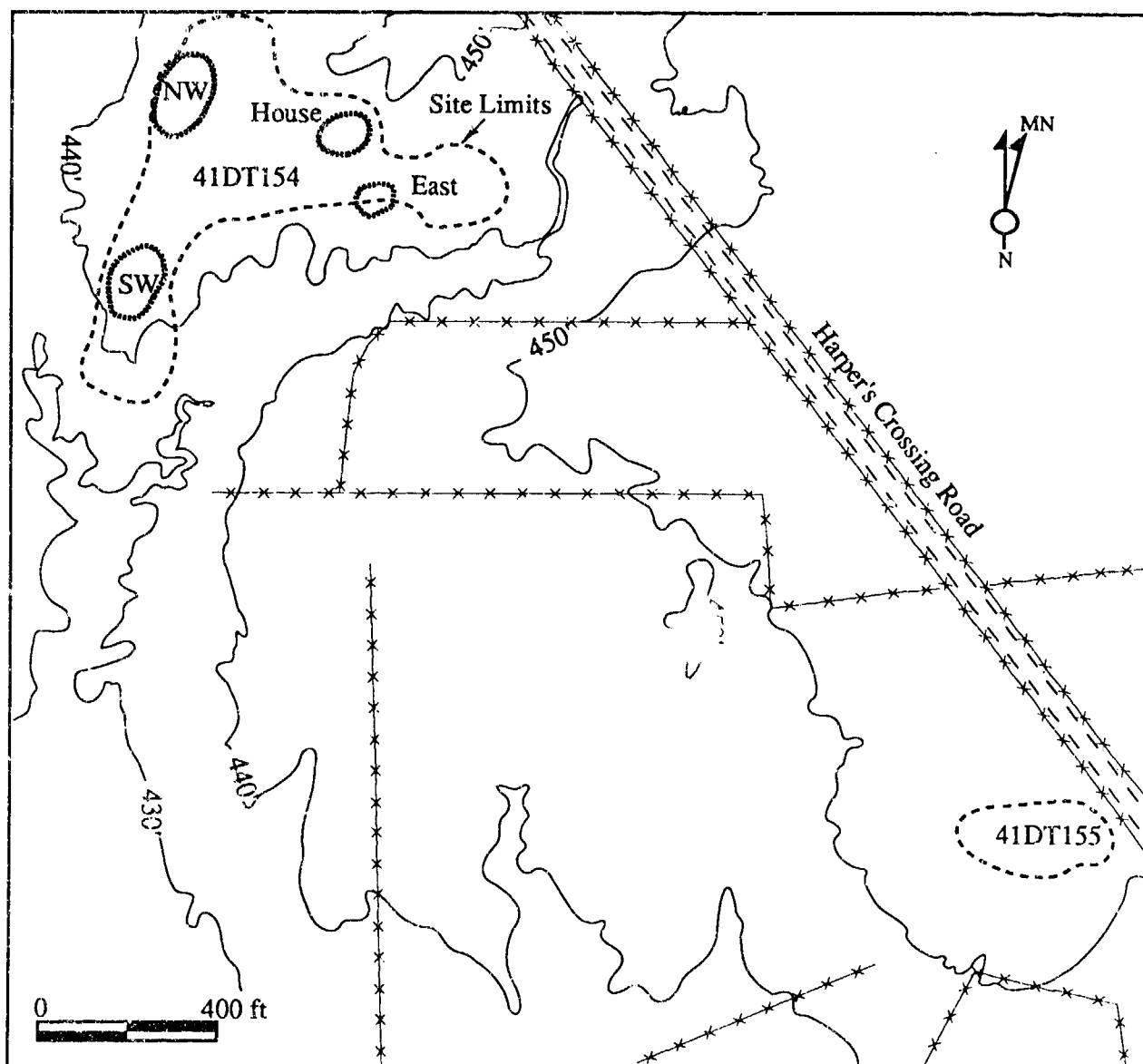


Figure 8-69. Plan of sites 41DT154 and 41DT155, showing their locations along the Harpers Crossing Road.

stratigraphy, are described below from oldest (lowest) to youngest (uppermost).

Stratum I is a light brownish gray (10YR6/2) silty clay with red (2.5YR4/8) mottles. It has a gradual upper boundary 66 cm below ground surface and was excavated to a maximum depth of 78 cm below ground surface. It is culturally sterile.

Stratum II is a light gray (10YR7/2) silty loam with yellowish red (5YR5/8) mottles. It has

an abrupt upper boundary at 60 cm below ground surface. It is culturally sterile.

Stratum III is a light brownish gray (10YR6/2) silty loam containing a relatively small amount of gravel. It has an abrupt upper boundary at 2 cm below ground surface. Although historic and prehistoric cultural materials were recovered from this stratum in other areas of site 41DT154, none were present in BHT 33.

Stratum IV, the surface soil horizon, is a

dark gray (10YR4/1) silt loam with light brownish gray mottles, and is culturally sterile in BHT 33.

### *Archival Information*

Archival researches and informant interviews were conducted to identify previous occupants and the site's history. One informant, Mr. John Banks, was taken on a field visit to the site in order to provide additional assistance (see below, northwestern locus discussion). The archival sources examined include WPA surveys, census rolls, tax lists, and additional deed records. Data pertaining to each locus are described below.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, shovel testing, and backhoe excavations conducted on both the prehistoric component and the historic complex. The historic complex covers over 10,000 m<sup>2</sup> and includes historic brick clamps, clay pits, well depressions, and a house site dating from the mid- to late nineteenth century. Since the prehistoric component and the historic complex overlap, a single TARK number was given to the site. This convenience is appropriate since an old roadbed, the multiple brick clamps, the historic house and well, and the prehistoric deposits are widespread over the general landform. Intact deposits and features are present within both the prehistoric and historic components of this site. The investigations carried out at the site under Delivery Order Number 6 are discussed below by site locus.

#### 41DT154 Southwestern Locus (Prehistoric Component)

The prehistoric component is located in the extreme southwestern part of the site on a remnant knoll (Figures 8-70, 8-71). Two intermittent streams flow southward into Cannon Creek on both the eastern and western sides of the knoll. Elevation of the locus is 135 m (442 ft) above msl. The mapped soil type for the southwest locus is Annona loam, 1-4% slopes (Ressel 1979). At the present time, there is an oak forest on the knoll

containing a minor understory of wild grape and other herbaceous plants.

### *Stratigraphy*

The A-horizon in this portion of the site is a silty loam, that ranges 0-46 cm in thickness. Average thickness of the A-horizon on the crest of the knoll is ca. 30 cm. All artifacts from the site derive from this stratum or from a possible cultural feature originating in this stratum (see below). The silty loam A-horizon is underlain by a compact silty clay B-horizon.

### *Archaeological Investigations*

This component of 41DT154 was identified during backhoe testing of high potential landforms in the Delivery Order Number 6 study area (see Chapter 6, this report). Archaeological investigation of this locus included surface collection, the excavation of 32 shovel tests emplaced in a 10 m interval grid system, and the excavation of two backhoe trenches (i.e., BHTs 37 and 38). All sediments were screened through 0.25 in mesh. Twenty-three of the 32 shovel tests yielded prehistoric artifacts and/or fire-cracked rock (see Figure 8-71).

An apparent cultural feature of unknown function, possibly a pit, was identified within BHT 37, which was the first unit excavated at the site. This feature, which appeared as a subsurface depression, was excavated in 20 cm levels and extended to a maximum depth of 78 cm below ground surface. Limited shovel testing in the vicinity of the feature indicates that, if circular, its diameter is greater than 10 m and less than 15 m. The feature did not appear to exhibit microstratigraphy nor were temporally diagnostic artifacts associated with it. No charcoal, faunal, or macrobotanical samples were recovered. Our preliminary assessment of the feature is that its deposits are mixed, and that further investigation will be necessary to define its limits, character, and cultural association(s).

Three Gary dart points and a single Marshall form (Figure 8-72) were recovered from BHT 37, but these were observed out of context and did not appear to be associated with the feature. A biface was recovered from Level 2 within the feature,



Figure 8-70. General view of the southwestern locus (prehistoric component) of site 41DT154, facing north.

but as all lithic materials from this locus are of Ogallala quartzite, it is impossible to associate this artifact with any of the temporal diagnostics recovered from this locus. The only finished implements recovered from roughly equivalent levels in adjacent units included untyped arrow point fragments (Figure 8-73).

Although the lack of data does not permit precise interpretation of this apparent feature, it may be speculated that the pit is similar to large roasting pits discovered at the Lawson site (41HP78) at Cooper Lake (Martin 1993) and other sites in the Richland/Chambers Reservoir, including the Irvine site (41NV182; McGregor and Böhlín 1987:125-147), the Bird Point Island site (41FT201), and the Adams Ranch site (41NV177; Bruseth and Martin 1987:272-277).

A total of 1,003 artifacts was recovered from the southwestern locus. The dominant artifact class at 41DT154 is broken flakes (58.5%), followed by whole flakes (34.8%). Combined as a single category, flakes comprise 93.3% of the total artifact assemblage (see Appendix A, this report). Attribute analysis of whole flakes revealed that, of the 313 whole flakes, all are of Ogallala quartzite and 83% of the flake assemblage falls into the

0-50% dorsal cortex categories. McGregor (1993), Peter and McGregor (1987), and McGregor and Bruseth (1987) have hypothesized that, as bifacial core reduction occurs, there is a progressive reduction in the amount of dorsal cortex present on each flake. Based upon this assumption, as the knapper nears the preform stage and a finished tool, there should be a higher percentage of flakes that fall into the 0-50% dorsal cortex categories. Previous research at Cooper Lake has indicated that dorsal cortex categories can provide an index or means for modeling lithic reduction and, possibly, settlement patterning, as related to lithic procurement.

Flake assemblage data compiled from sites (i.e., 41DT154, 41HP171, and 41HP174) investigated during this work order are presented in Appendix A in order to begin development of an explicit model of reduction sequences from quarry (e.g., the upland gravels along the escarpment south of the South Sulphur River) to habitation sites.

Ethnographic studies and archaeological research have provided models for interpreting settlement patterning. Using archaeological studies of lithic procurement as a model, the high

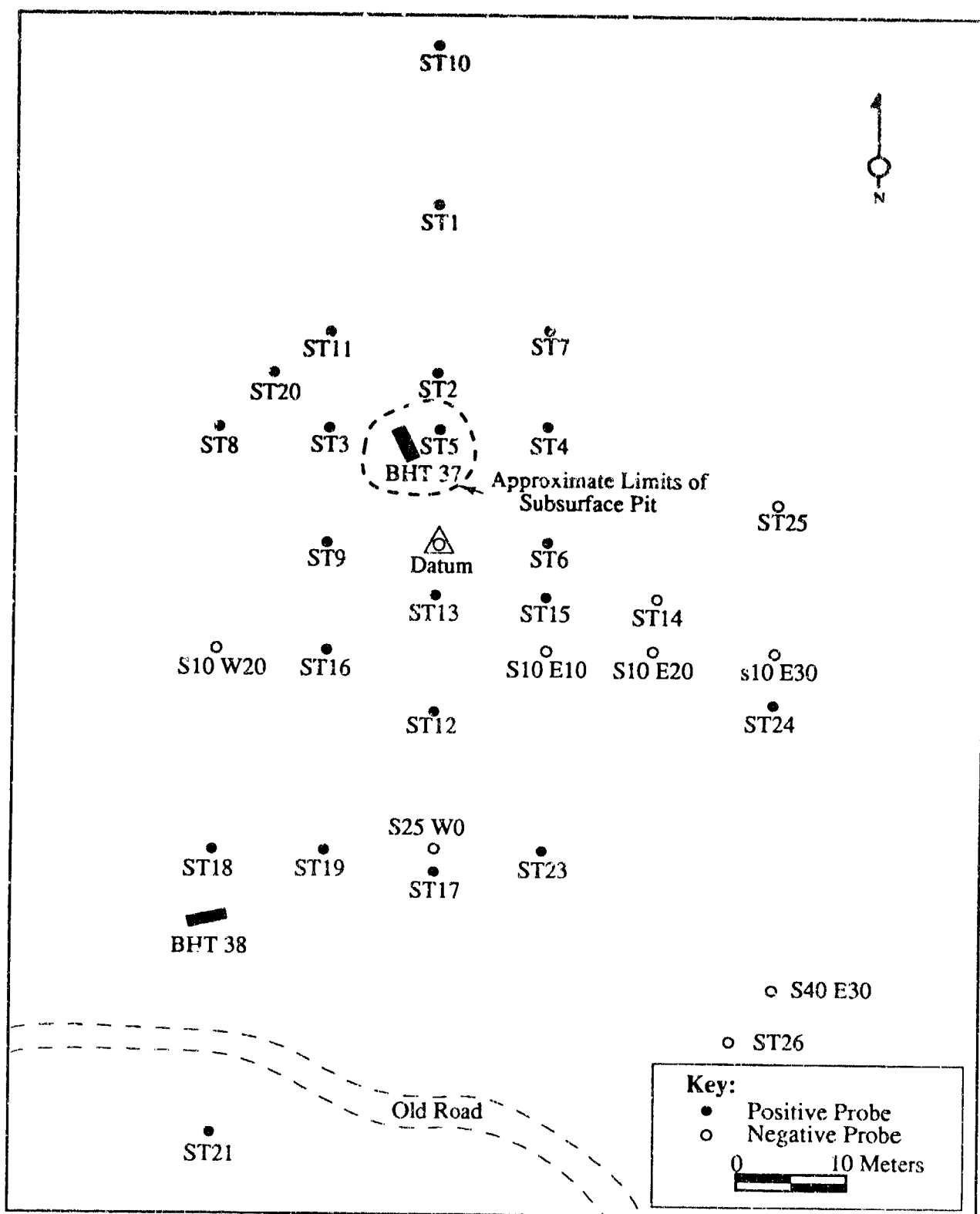


Figure 8-71. Plan of the southwestern locus of site 41DT154, showing the location of shovel tests, backhoe trenches, and surface features.



Figure 8-72. Flaked stone artifacts from site 41DT154, Cooper Lake Delivery Order Number 6 study area. Top row: three Gary dart points (BHT 37, 0-60 cm). Bottom row (left-right): Marshall dart point (BHT 37, 0-60 cm), untyped dart point fragment (ST 4, 40-60 cm), biface (ST 13, 19-20 cm), biface (BHT 38, surface).

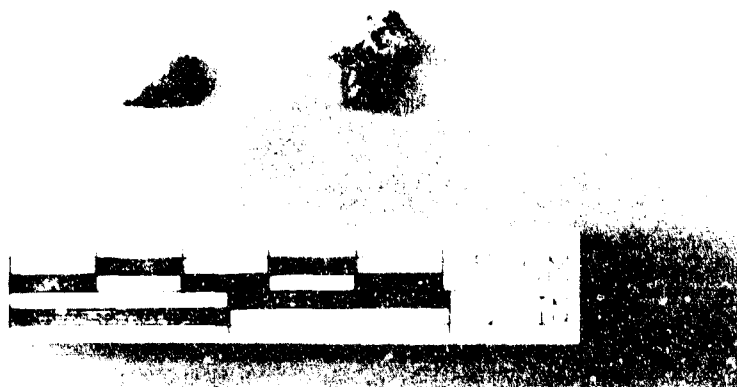


Figure 8-73. Projectile points from site 41DT154, Cooper Lake Delivery Order Number 6 study area. Left-right: untyped arrow point fragment (ST 4, 40-60 cm), Alba arrow point (ST 5, 0-10 cm).

percentage of flakes in the 0-50% dorsal cortex categories indicates later stages of tool manufacturing. Previous archaeological research at Cooper Lake and the work conducted by SMU have documented extensive exposures of the Uvalde gravels in the uplands south of the Sulphur River and in the upland north of the reservoir (Banks 1990). Within Survey Area 1, located south of the Sulphur River, the 1989 survey documented numerous outcrops of Uvalde gravels, especially on the eastern and western slopes of upland ridges. The dominant artifact types found at these Uvalde outcrops consist of primary flakes of Ogallala quartzite that fall into the 51-100% dorsal cortex categories. Aboriginal use of these gravel deposits appears to have been largely limited to lithic procurement, with later stages of lithic reduction and tool making occurring at other sites that may have been occupied for longer periods.

While it is perhaps too early to assign site function and occupation based solely on debitage, the high percentage of whole flakes in the 0-50% dorsal cortex categories may support an interpretation that most of the cortex from cores was removed elsewhere and that the blanks were then brought to 41DT154 for further reduction.

### *Recommendations*

Both Late Archaic (2000 B.C.-A.D. 500) and Late Prehistoric components are present at the site, based upon the recovery of Gary and Marshall dart points and resharpened, unidentified arrow points. Interpreting the site as a semi-sedentary or seasonal site where tool production occurred assumes that bifacial core reduction remained similar between the Late Archaic and Late Prehistoric periods. The data presently available neither support nor refute this assumption. Further work will be required to determine whether the deposits in the southwestern locus are stratified. The site's prehistoric component is classified as Category II.

#### 41DT154 Northwestern Locus (Historic Component)

The site's northwestern locus (Figure 3-74) contains a recent stock tank, several shallow

depressions thought to have been clay procurement pits, and two raised "mounds" which have been interpreted as brick clamps (Figure 8-75). The subsurface testing program conducted at the site (see below) has indicated that these square to rectangular mounds are almost entirely composed of poorly fired handmade brick. Superimposing this layer of waste brick is a historic refuse deposit containing late nineteenth century artifacts (see below). It appears that the northwestern locus of 41DT154 may have been used for brick-making during this period.

### *Archival Information*

In 1936, a two-room dwelling, shed, and barn were indicated on the D. W. Huffer tract, which contains 41DT154. He had purchased it in 1933. This property had been owned by Frank Chapman in the 1850s. A close examination of census records indicates that only one person in the 1900 census listed his profession as "brick maker." This individual was Mathas Maitland, an immigrant from Ireland who resided in Precinct 1, which includes the 41DT154 area. Since this site is in the adjacent precinct to Cooper, it is possible that Mathas Maitland was a tenant on the Chapman Estate.

Informant John Banks (personal communication 1989) was surprised that these brick clamps were present. They have been reported on a plantation at Cedar Lakes, but two of the best local historians (John Banks and Doug Albright) did not know about this site.

The archaeological investigation of the site's northwestern locus included surface survey, the excavation of a single shovel test (25 cm x 25 cm x 25 cm) as a datum, and the excavation of three backhoe trenches (i.e., BHTs 34, 35, and 36). Backhoe trenches 34 and 35 identified high concentrations of glazed and unglazed handmade brick fragments, none of which were collected. Above this brick layer, BHT 35 yielded relatively high amounts of glass, whiteware, stoneware, and nails, all dating ca. 1890. No artifacts were recovered from the datum excavation. Similarly, BHT 36, excavated ca. 40 m southwest of the datum in an attempt to identify occupational debris associated with the brick mound features, did not yield additional cultural material.

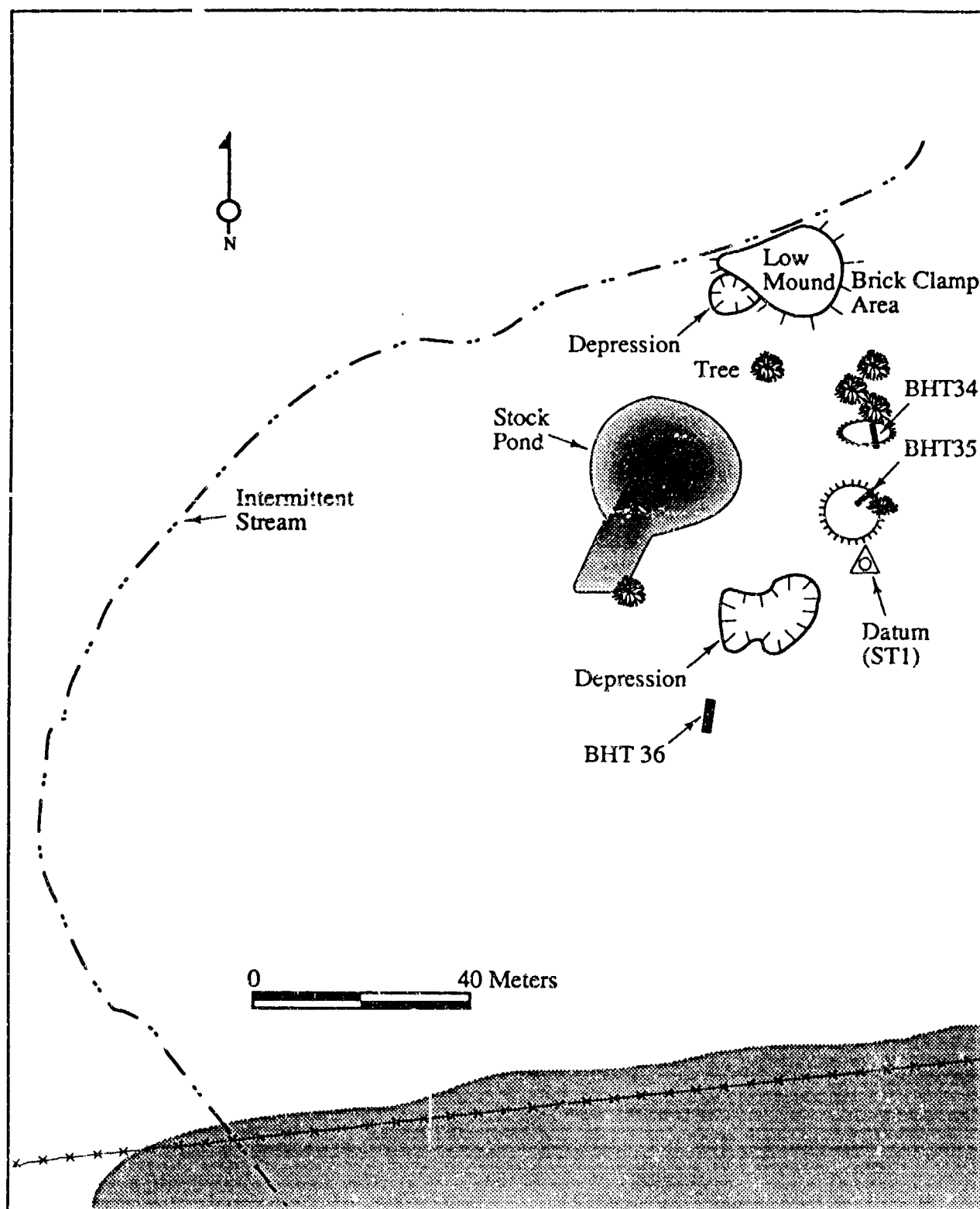


Figure 8-74. Plan of the northwestern locus of site 41DT154, showing the location of the historic brick clamp area, backhoe trenches, and surface features.



Figure 8-75. General view of site 41DT154, west locus (brick clamp area), facing west.

The total historic artifact assemblage from backhoe and hand excavations in the northwestern locus (or brick clamp area) of 41DT154 consisted of 228 items (Table 8-9), dominated by vessel glass ( $n=164$ ; 71.9%), brick fragments ( $n=30$ ; 13.1%), and wire nails ( $n=12$ ; 5.3%). Refined earthenware sherds ( $n=8$ ; 3.5%), stoneware fragments ( $n=7$ ; 3.0%), miscellaneous artifacts (one wire, four thin metal items [ $n=5$ ; 2.2%]), and personal items (one leather shoe upper, one glass button [ $n=2$ ; 0.9%]) round out the assemblage.

Notable glass artifacts include 128 fragments from a single aqua panel bottle (ca. 1860-1900) and four fragments of aqua ground lip fruit jars (ca. 1860-1895). Three brown glass fragments (probably liquor bottles) had some portions of the embossed words "Distilled Louisville, KY" remaining. Notable ceramic artifacts include one ironstone fragment with a maker's mark of "A.J. Wilkinson Ltd. England" and one ironstone fragment had a "J & G Meahin" (post-1891) maker's mark.

### *Recommendations*

Due to the paucity of small-scale rural industrial sites and the presence of intact cultural

features, the site's northwestern locus has the potential to yield significant information for brick-making in the Historic period. This locus has been classified as Category II. Further work is necessary to evaluate the significance and NRHP-eligibility of the northwestern locus.

### *41DT154 House Site (Historic Component)*

This domestic house site is located directly west of the old Bonham to Jefferson Road (Figure 8-76). A large bois d'arc tree grows at the locus, and there are two depressions near the tree. These depressions are thought to represent either cisterns or wells.

### *Archaeological Investigations*

A total of six shovel tests (50 cm x 50 cm x 30 cm) were placed in this locus (see Figure 8-76), resulting in the recovery of domestic refuse including vessel glass, ironstones, whiteware, tableware, porcelain, and window glass (see Table 8-9). An additional two shovel tests were excavated 60 m to the east (see 41DT154, eastern locus below). A single backhoe trench (BHT 33)



TABLE 8-9  
Distribution of Historic Artifacts from the Historic Complex at Site 41DT154,  
Delivery Order Number 6 Study Area

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Vessel Glass	Other Vessel Glass	Cut Nails	Wire Nails	Brick	Personal Items	Horse/ Stable	Bone/ Shell	Misc.	Total
<i>Northwestern Locus</i>													
BHT 35	-	8	7	1	163	-	12	-	2	-	-	5	198
ST 1	-	-	-	-	-	-	-	30	-	-	-	-	30
Subtotal		8	7	1	163	-	12	30	2	-	-	5	228
<i>House Site</i>													
ST 1	0-15	6	-	6	4	-	-	20	-	-	-	-	36
ST 2	0-18	1	-	-	11	1	1	20	-	-	2	18	54
ST 3	0-14	-	-	-	-	-	-	7	-	-	-	-	7
ST 4	0-26	-	-	8	3	-	-	6	-	-	-	5	22
ST 5	0-18	-	-	1	-	-	-	9	-	-	-	1	11
ST 6	0-22	-	-	3	-	-	2	10	-	-	-	2	17
Surface	0	22	2	7	10	-	-	-	-	1	1	-	43
Subtotal		29	2	25	28	1	3	72	-	1	3	26	190

Table 8-9 (cont.)

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Vessel Glass	Other Vessel Glass	Cut Nails	Wire Nails	Brick	Personal Items	Horse/ Stable	Bone/ Shell	Misc.	Total
<i>Eastern Locus</i>													
ST 1	-	-	-	-	-	-	-	8	-	-	-	-	8
ST 2	-	-	-	-	-	-	-	100	-	-	-	-	100
Subtotal	-	-	-	-	-	-	-	108	-	-	-	-	108
Total	37	9	26	191	1	15	210	2	1	3	31	526	

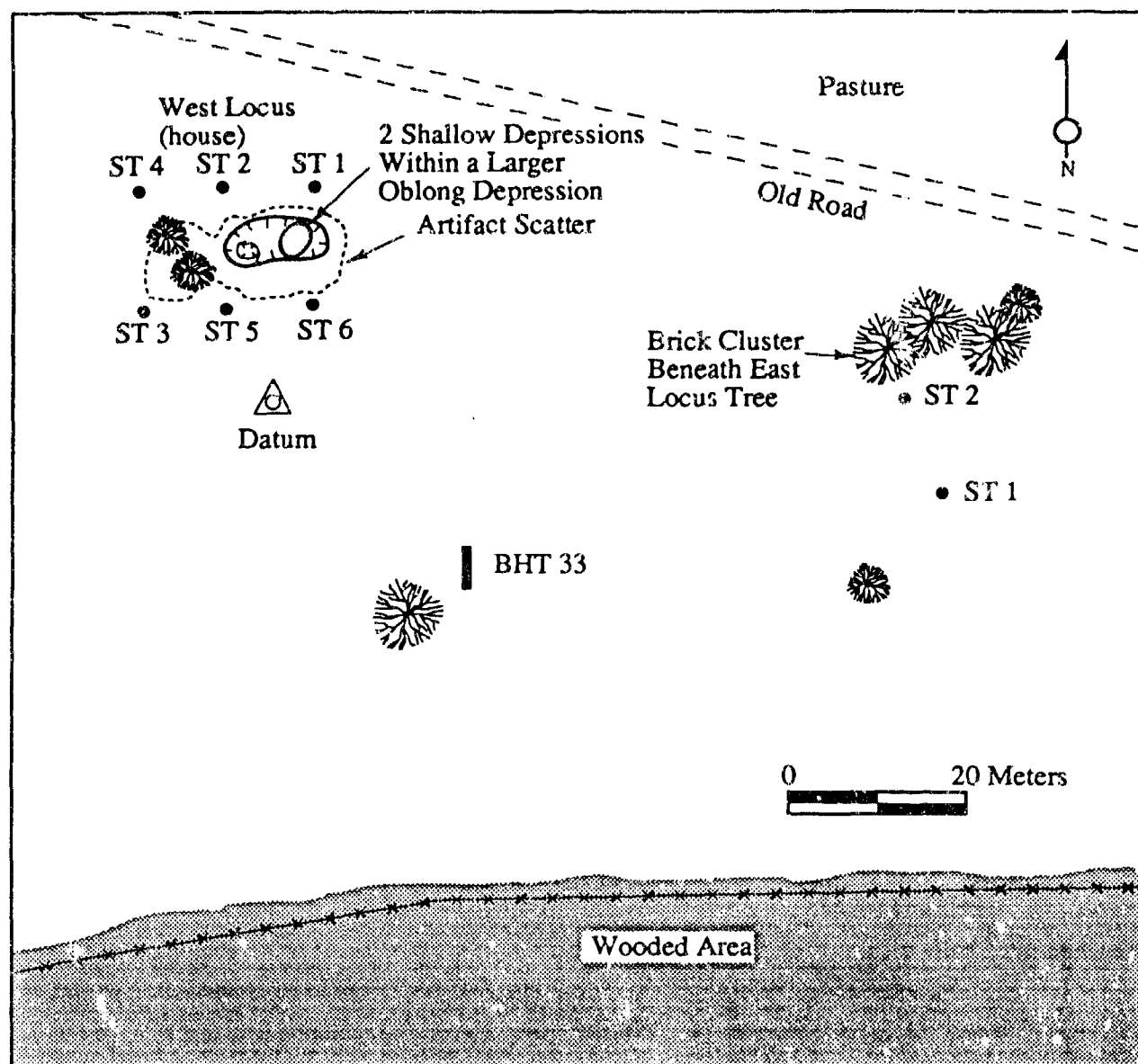


Figure 8-76. Plan of the western (house) and eastern loci at site 41DT154, showing location of backhoe trenches, shovel tests and surface features.

excavated between this locus and the eastern locus was sterile.

The historic artifact assemblage recovered from shovel test probes and surface contexts in the house site (see Table 8-9) component of 41DT154 consisted of 190 artifacts, dominated by brick fragments ( $n=72$ ; 37.9%), vessel glass fragments ( $n=28$ ; 14.7%), refined earthenware sherds ( $n=29$ ; 15.3%), miscellaneous items (e.g., wire, thin metal [ $n=26$ ; 13.7%]), and manganese solarized vessel glass ( $n=25$ ; 13.2%). Three fragments (1.6%) of mussel shell, three wire nails

(1.6%), two stonewares (1.0%), one cut nail (0.5%), and one harness tack (0.5%) round out the assemblage.

#### Recommendations

Analysis of these artifacts dates the occupation to the late nineteenth century. Due to the proximity of the house site to the brick clamp, located 300 m (984 ft) to the northwest, both loci are thought to be contemporaneous. Archival research has documented that the property had

been owned by the Chapman family during the late 1800s and was possibly occupied by Mathas Maitland.

#### 41DT154 Eastern Locus (Historic Component)

This locus (see Figure 8-76) is situated on the site's eastern periphery within a thicket of locust trees. Numerous poorly fired handmade brick fragments similar to those noted in the site's northwestern locus were noted on the ground surface, but no elevations or depressions were present. No domestic artifacts are associated with this portion of the site, which is interpreted as a brick clamp.

#### *Archaeological Investigations*

Because of an absence of surface phenomena, only two shovel tests were excavated at a 10 m interval in the site's eastern locus (see Table 8-9). Both tests yielded brick fragments only. A single Ogallala quartzite flake was recovered from ST 2.

#### *Recommendations*

Taken as a whole, the historic complex at 41DT154 contains a house site and associated, small-scale brick production areas. Preliminary testing of the three loci which comprise the historic complex suggests contemporaneity for these loci and the representation of a rarely encountered historic site type. Little has been published about the region's small-scale rural industries (cottage industries) or the ethnicity of people associated with these activities. Census data and archival sources have not yielded information which clarifies the land ownership or tenancy for this complex. Due to the ambiguity surrounding ethnic affiliation of the occupants of this site, it is recommended that additional archival and archaeological investigations should be conducted to further refine our understanding of the historic occupation.

The historic complex at the site clearly has the potential to yield significant information for the Historic period in this area. All historic components are potentially important to local history. The site's prehistoric component is also

important. Although the prehistoric and historic artifacts grade together, their associated occupations and cultural features do have spatial integrity. Intact deposits and features appear to be present on both the historic and prehistoric components of this site. Due to the significance of the early historic industrial use and the presence of an apparently intact prehistoric component, the site has high potential to address the material culture, technological, and chronological questions outlined in the Research Design. The site has been classified as Category II. Further work is recommended to evaluate its National Register eligibility.

#### Site 41DT155

Site 41DT155 is located on the Harper's Crossing Road (Figure 8-77; see Figure 8-69), directly south of 41DT119. The site is located at 137 m (450 ft) above msl on Crockett loam soil. 1-3% slopes. This area was a post oak savannah and slope forest fringing a broad upland prairie in its native state. Today the area is used as pasture, and is scattered with a few post oak trees.

#### *Stratigraphy*

Two natural soil strata were identified at site 41DT155. These are discussed in order from older (lower) to younger (upper).

Stratum I is a brown (10YR4/2) clay with reddish brown (5YR5/4) mottles. It has an abrupt, wavy upper boundary 0-20 cm below ground surface. It has been exposed by erosion and road construction in less than 1% of the site area. It is culturally sterile.

Stratum II is the surface soil horizon. It is a very dark grayish brown (10YR3/2) loam. All historic artifacts at the site are resting on the surface of this stratum.

#### *Archival Information*

Site 41DT155 is located on the Zephria Dawson Survey which was completed in 1854. The Z. Dawson homestead (41DT118), located ca. 1 km (0.6 mi) to the east, was intensively studied in 1987 (Green 1993a). Site 41DT119 (adjacent to 41DT155) may have been a tenant house or a

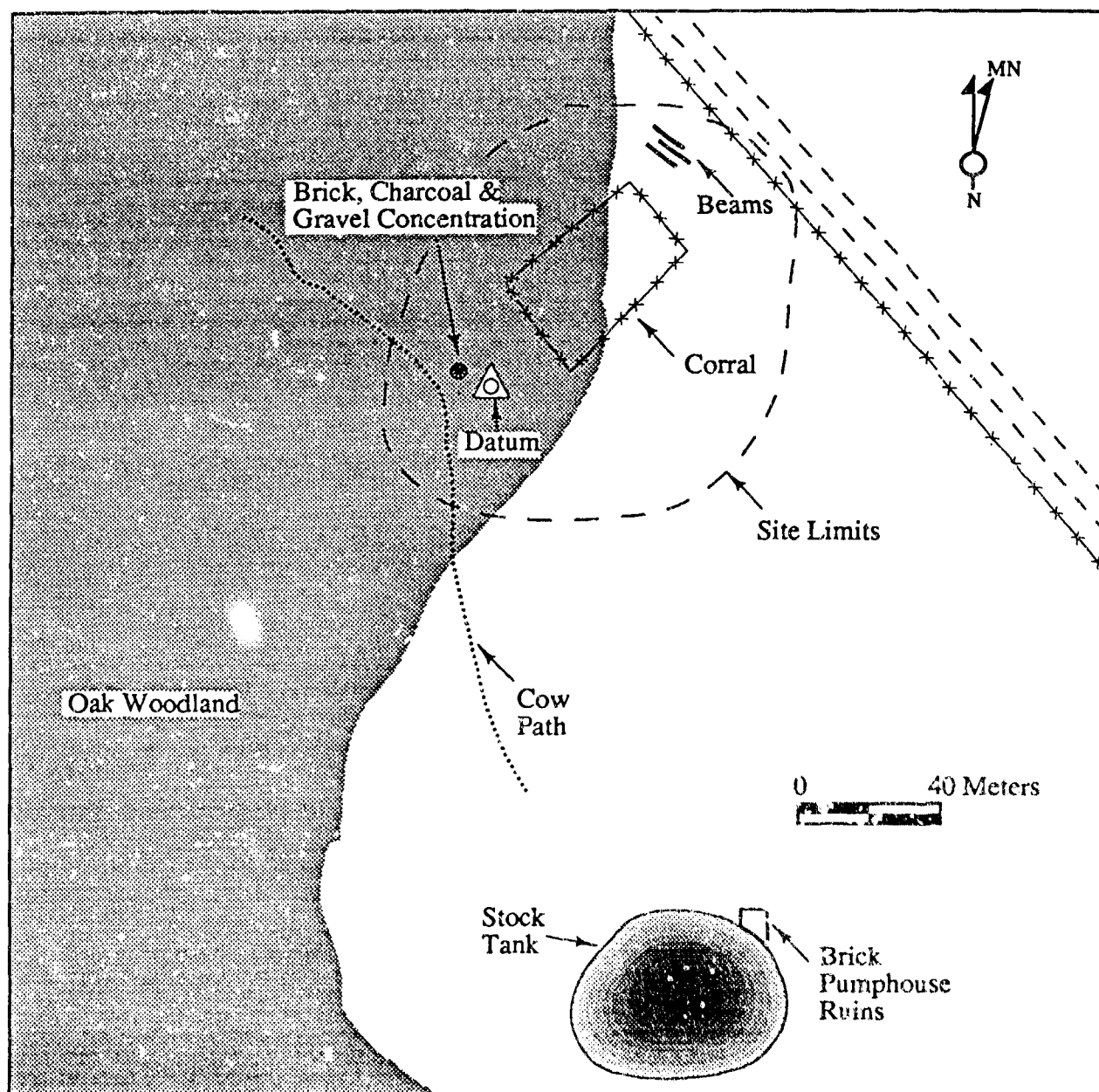


Figure 8-77. Plan of site 41DT155, showing the location of historic features.

house occupied by members of the Dawson family. That site contained artifacts dating from ca. 1850-1950, and evinced an intense 1900-1950 occupation.

#### *Archaeological Investigations*

This site was initially recorded as an archaeological locality in 1987. Close interval (5 m) survey was performed at the site. No domestic

items were noted. Wooden bois d'arc and oak debris (mortise and tenon beams), which were scattered across the site, had been scavenged from an old building originally located elsewhere. These beams had been used to form a rough corral at this site. Due to a lack of archaeological evidence for any historic occupation, this locality was not recorded as a site. Although five tree-ring specimens were collected from the oak beams, none of these specimens contained enough rings

for dating purposes. It was thought that this locality was simply a ranching facility that was used during the 1950s-1960s.

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey. The site is actually outside of the survey area, but within the proposed Doctors Creek Park. As shown in Figure 8-77, several features such as the brick pumphouse by the stock tank and the cattle trails confirm the use of the site for ranching.

### *Recommendations*

The reevaluation of site 41DT155 confirmed the assessment of the 1987 survey. The wooden debris, brick, and gravel concentration as well as the stock tank are all part of a ranching complex. The wood is not suitable for tree-ring dating. Archival and informant information have not indicated any historical significance for this property. Due to the recent age of the complex, it has low potential to address the material culture and chronological questions outlined in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

### **Site 41DT156**

This prehistoric site (Figure 8-78) was situated on one of the many "pimple" mounds in the area. The soil is classified as Hicota, part of the Freestone-Hicota complex, which is characterized by such pimple mounds. These mounds are ubiquitous features in certain areas of Doctors Creek, and frequently contain low-density scatters of prehistoric materials. In its native state, this area was a mixed hardwood slope forest. It has been cleared and intensively cultivated in the past, and is fallow pasture today.

### *Stratigraphy*

Two natural strata were identified at site 41DT156, which is located in the Cannon Creek floodplain. This site may be a continuation of site 41DT116, which was investigated in 1987 by

SMU (McGregor, Martin, and Cliff 1993). These strata are discussed in order from older (lower) to younger (upper), as they were represented in BHT 40.

Stratum I is a light brownish gray (10YR6/2) clay loam with red (2.5YR4/8) mottles. It has a distinct upper boundary at 91 cm below ground surface and was excavated to a maximum depth of 125 cm below ground surface. A single fragment of fire-cracked rock was recovered in this stratum at 106 cm below ground surface.

Stratum II is a dark grayish brown (10YR4/2) silt loam with reddish yellow (7.5YR6/8) mottles. This is the surface soil horizon and is culturally sterile in BHT 40. This stratum yielded flakes and fire-cracked rock in BHT 41 (ca. 90 m southeast of BHT 40), BHT 44 (ca. 100 m north of BHT 40), and BHT 45 (ca. 160 m north of BHT 40).

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, and backhoe excavations. Backhoe trenches were excavated in all pimple mounds (see Figure 8-77). All four backhoe trenches excavated at the site indicated deep soils measuring 40 cm in thickness. Artifacts were recovered from only one backhoe trench (BHT 40) and from the surface of the site.

Eighty-four stone artifacts were recovered from this site, indicating a prehistoric component. Broken flakes (45.2%), whole flakes (33.3%), and fire-cracked rock (17.8%) comprise the majority of these artifacts. One uniface (1.2%), one battered stone (1.2%), and one unworked cobble (1.2%) comprise the remainder of the artifacts.

### *Recommendations*

No temporally diagnostic artifacts were recovered, and the site has low potential to address the questions outlined in the Research Design. It is deemed clearly not eligible (Category III) for the National Register because it failed to meet the criteria of significance. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

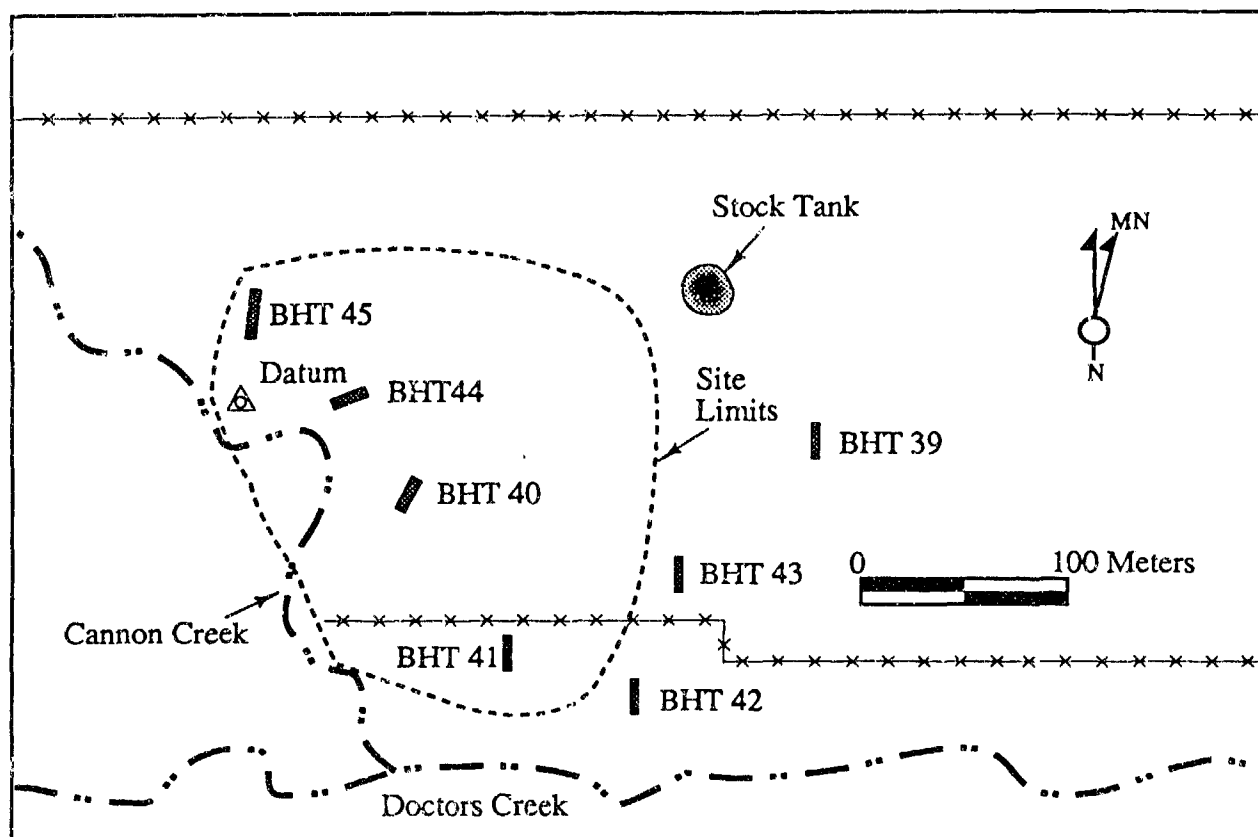


Figure 8-78. Plan of site 41DT156, showing the location of backhoe trenches, surface features, and site limits.

#### Site 41DT157

This historic farmstead (Figure 8-79) was located on a low rise at 126.5 (415 ft) above msl within the lower slope of the Doctors Creek Valley. The soil type is Benklin silt loam. In its native state, this area was a mixed hardwood slope forest. It has been cleared and intensively cultivated in the past, and is tallow pasture today.

#### Stratigraphy

Two natural soil strata were identified in backhoe excavations at site 41DT157. These are discussed in order from older (lower) to younger (upper).

Stratum I is a dark grayish brown (10YR4/2) clay loam with lenses of light yellowish brown (10YR6/4) silt. It has a clear upper boundary at 13 cm below ground surface and was excavated to 51 cm below ground surface. Metal items, including

a large iron bar, were noted to a maximum depth of 28 cm below ground surface.

Stratum II is the surface soil horizon. It is a dark gray (10YR4/1) silty clay loam with light brownish gray (10YR6/2) mottles. Glass and metal fragments were present throughout this stratum.

#### Archaeological Investigations

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, and surface collection. Thirty-nine artifacts were recovered from a historic component at this site (Table 8-10). Non-diagnostic glass (66.7%) comprises the majority of the assemblage. Other glass and ceramic artifacts present in low frequencies include plain ironstone/whiteware (7.7%), stoneware (7.7%), and diagnostic glass (2.5%). Architectural remains include wire nails (5.1%) and other miscellaneous items (10.3%).

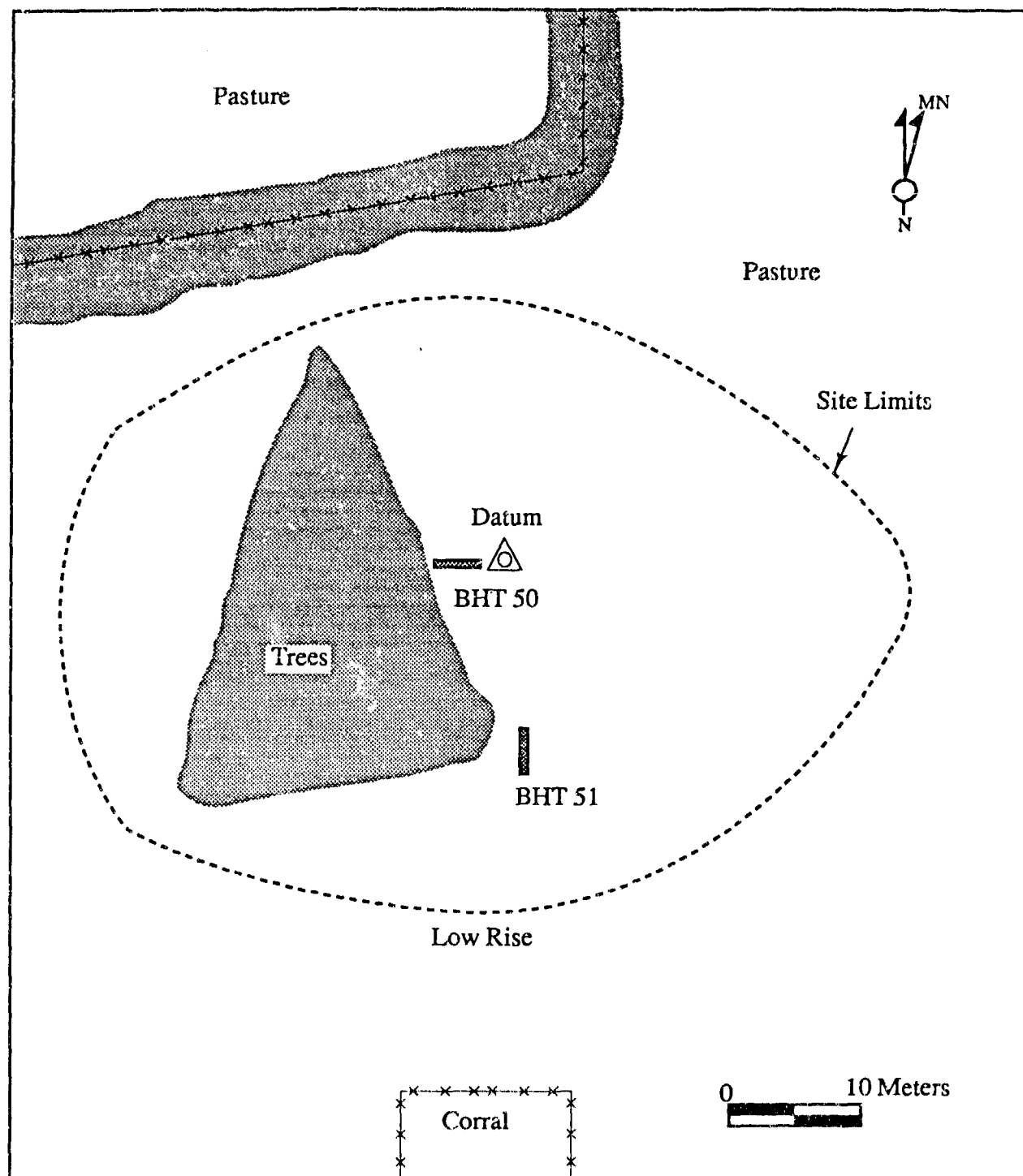


Figure 8-79. Plan of site 41DT157, showing the location of backhoe and datum excavations, surface features, and site limits.



TABLE 8-10

Distribution of Historic Artifacts from Site 41DT157,  
Delivery Order Number 6 Study Area

Unit	Depth (cm)	Refined Earthenware	Stoneware	Manganese Vessel Glass	Other Vessel Glass	Wire Nails	Misc.	Total
BHT 50	0-10	1	3	1	15	-	-	20
BHT 51	0-28	2	-	-	11	2	4	19
Total	-	3	3	1	26	2	4	39

**Recommendations**

Archival and informant researches do not indicate any historical significance for this site. The site has low potential to address the material culture and chronological questions outlined in the Research Design. It is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

**Site 41DT158**

This historic house site (Figure 8-80) is located along the modern road from Harpers Crossing to Cooper. The soil type is Benkin silt loam. In its native state, this area was a mixed hardwood slope forest. It has been cleared and intensively cultivated in the past, and is fallow pasture today.

**Stratigraphy**

Two natural strata were identified in BHT 48 at site 41DT158. These are discussed in order from older (lower) to younger (upper).

Stratum I is a dark brown (10YR4/3) clay loam with yellowish red (5YR5/8) mottles. It has a gradual upper boundary at 18 cm below ground surface and was excavated to a maximum depth of

38 cm below ground surface. It is culturally sterile.

Stratum II is a dark grayish brown (10YR4/2) clay loam with yellowish red (5YR5/8) mottles. This is the surface soil horizon. Historic artifacts, including machine-made brick, glass, and metal are confined to the upper 13 cm of this stratum. Charcoal flecks are present throughout this stratum.

**Archaeological Investigations**

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (3 m) pedestrian survey, mapping, surface collection, and backhoe excavations (see Figure 8-80). The artifact assemblage recovered from the backhoe excavation consisted of 39 items, which primarily included non-diagnostic glass (64.1%). Post-1930 bottle glass comprised 12.8% of the assemblage, and flashed glass comprised an additional 10.2%. Porcelain, table glass, wire nails, and a spoon rounded out the assemblage. All cultural materials and features noted at the site date to the mid-twentieth century.

**Recommendations**

Archival and informant researches do not indicate any historical significance for this site. Since this is a relatively recent house site which

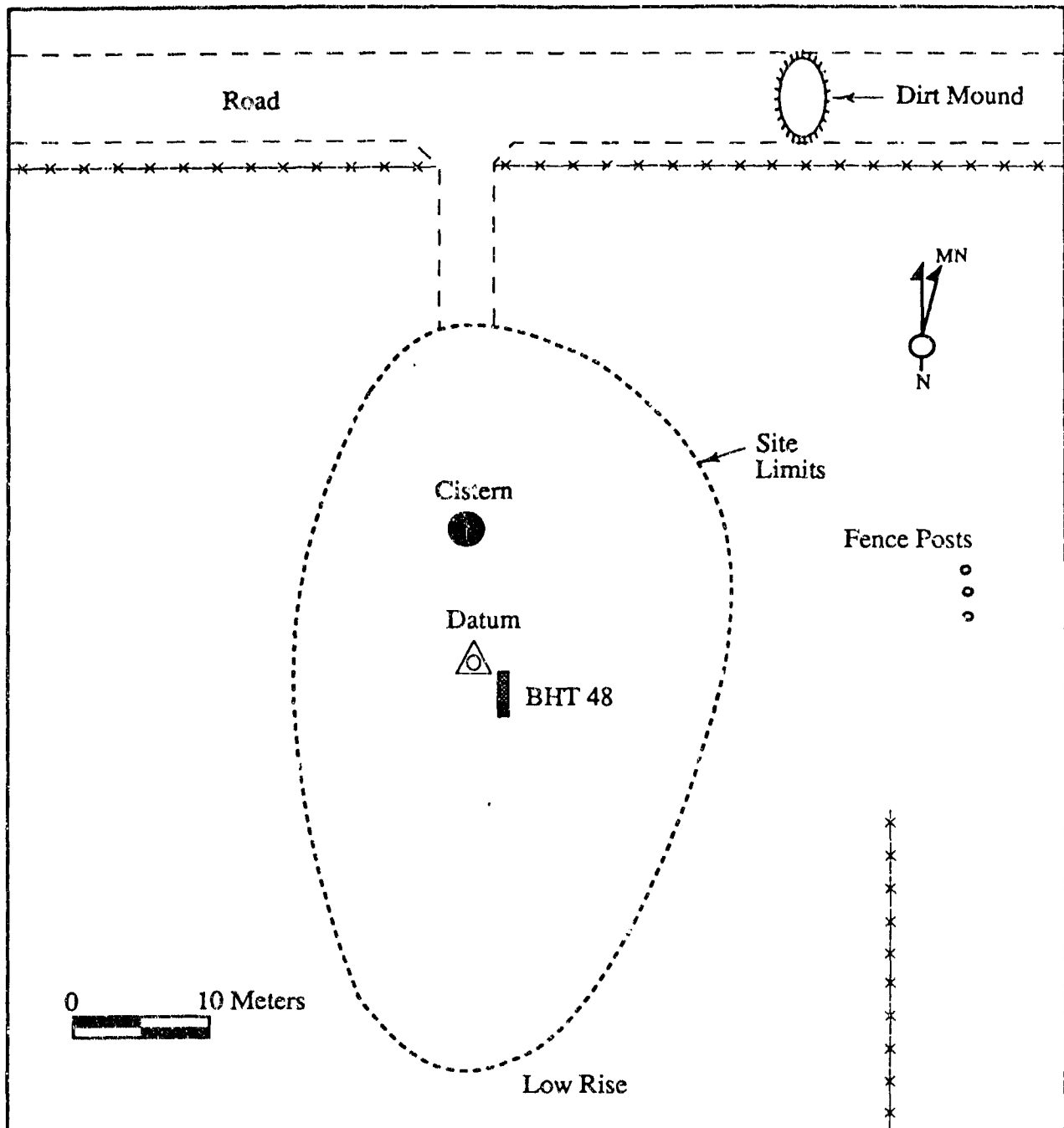


Figure 8-80. Plan of site 41DT158, showing the location of BHT 48, the site datum, surface features, and site limits.

has been bulldozed, this property has little potential to answer the material culture questions outlined in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is

recommended at this site.

#### Site 41DT159

This historic site (Figure 8-81) consisted of the remnants of a household. The soil type is Benklin silt loam. In its native state, this area

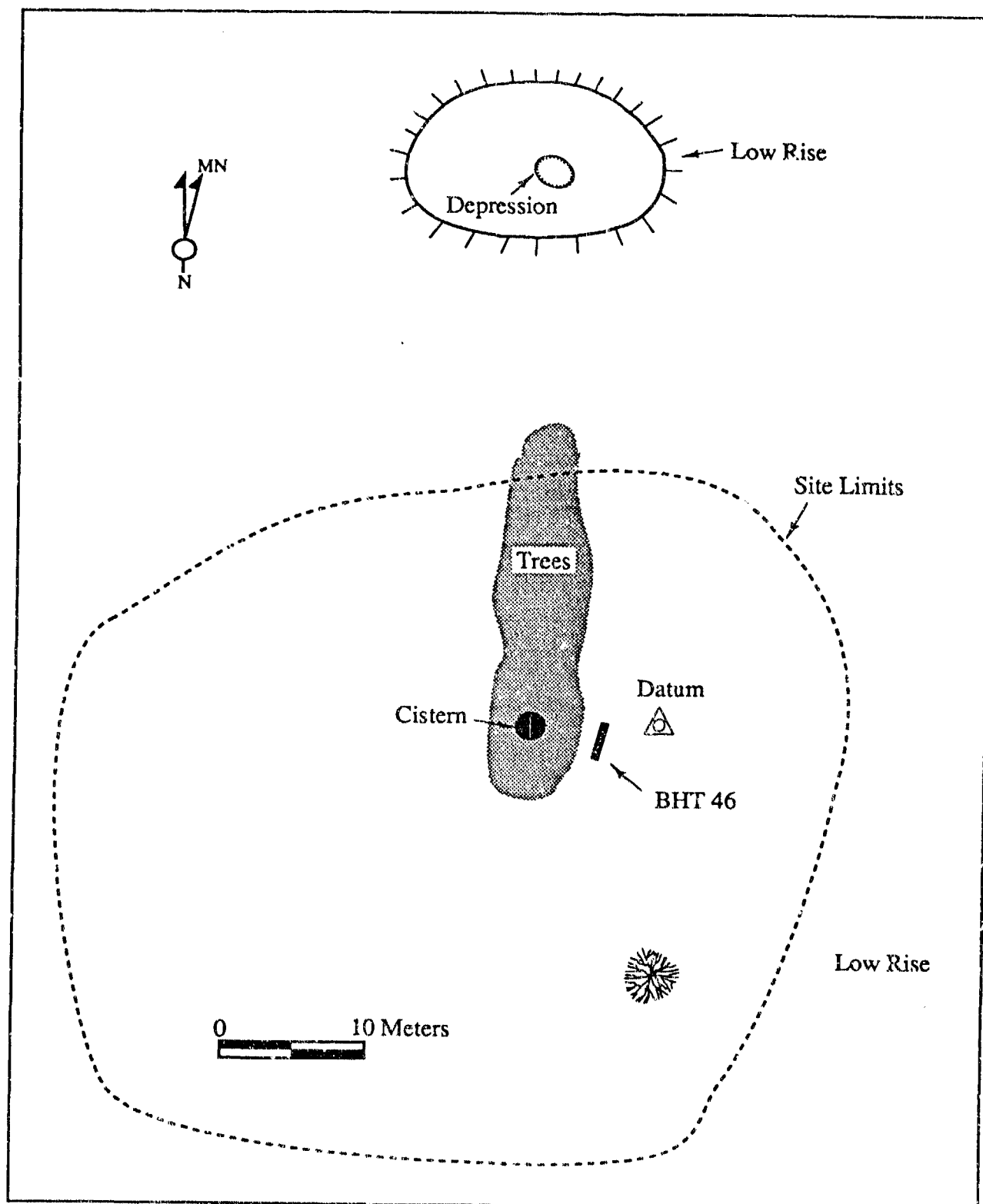


Figure 8-81. Plan of site 41DT159, showing the location of BHT 46, the site datum, surface features, and site limits.

was a mixed hardwood slope forest. It has been cleared and intensively cultivated in the past, and is fallow field pasture today.

### *Stratigraphy*

Four natural strata were identified in BHT 46 at site 41DT159, which is located in the slope physiographic zone of Doctors Creek. These are discussed in order from oldest (lowest) to youngest (uppermost).

Stratum I is a brown (10YR5/3) clay loam with red (2.5YR4/8) mottles. It has a distinct upper boundary at 56 cm below ground surface, and is culturally sterile.

Stratum II is a light gray (10YR7/1) silty clay with yellowish red (5YR5/8) mottles. It has a distinct upper boundary at 49 cm below ground surface, and is culturally sterile.

Stratum III is a very dark gray (10YR3/1) silt loam with dark gray (10YR4/1) and yellowish red (5YR5/8) mottles. It has a distinct upper boundary at 6 cm below ground surface. Historic artifacts, glass, and machine-made brick were recovered to 11 cm below ground surface.

Stratum IV is a grayish brown (10YR5/2) silt loam with light yellowish brown (10YR6/4) mottles. This is the surface soil horizon. Glass, machine-made brick, and metallic items are present through this stratum.

### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included close interval (5 m) pedestrian survey, mapping, surface collection, and backhoe excavations. A single backhoe trench was excavated (see Figure 8-81).

Only 10 items were recovered from excavations and surface collections at the site. Six of these items were non-diagnostic glass. Other items included lettered glass, cut nails, and parts of a shoe.

### *Recommendations*

Archival and informant researches do not indicate any historical significance for this property. Due to the lack of intact deposits and the long time range indicated by artifacts (late

nineteenth to mid-twentieth century), this site has little research potential to address the research questions outlined in the Research Design. The site is deemed clearly not eligible (Category III) for the National Register because it failed to meet the criteria of significance. If future information is found that warrants additional consideration, this site will be reevaluated for eligibility. No further work is recommended.

### **Site 41DT160**

This historic site (Figure 8-82) consisted of the bulldozed remains of a dwelling and two cisterns. The soil type is Benclin silt loam. In its native state, this area was a mixed hardwood slope forest. It has been cleared and intensively cultivated in the past, and bulldozed within the last decade. It is in fallow field pasture today.

### *Stratigraphy*

Two natural soil strata were identified at site 41DT160. These are discussed in order from older (lower) to younger (upper).

Stratum I is a dark grayish brown (10YR4/2) clay loam with lenses of light yellowish brown (10YR6/4) silt. It has a clear upper boundary 13 cm below ground surface and was excavated to 51 cm below ground surface.

Stratum II is the surface soil horizon. It is a dark gray (10YR4/1) silty clay loam with light brownish gray (10YR6/2) mottles. Glass and metal fragments were present throughout this stratum.

### *Archival Information*

Archival researches and informant interviews were conducted to establish the previous occupants and historical significance. This property was reported to be the second house site of the Zephriah [sic] Dawson family. Zephriah Dawson and his wife, Asenith, were born in Pennsylvania and came to Texas from Illinois with six children. Dawson was listed on the 1853 tax rolls and received 129.5 ha (320 acres) in 1854. This family was one of the first to settle in the region. Census and tax information indicates that both sites 41DT118 and 41DT160 were occupied by this family in 1850. John Dawson, the family's

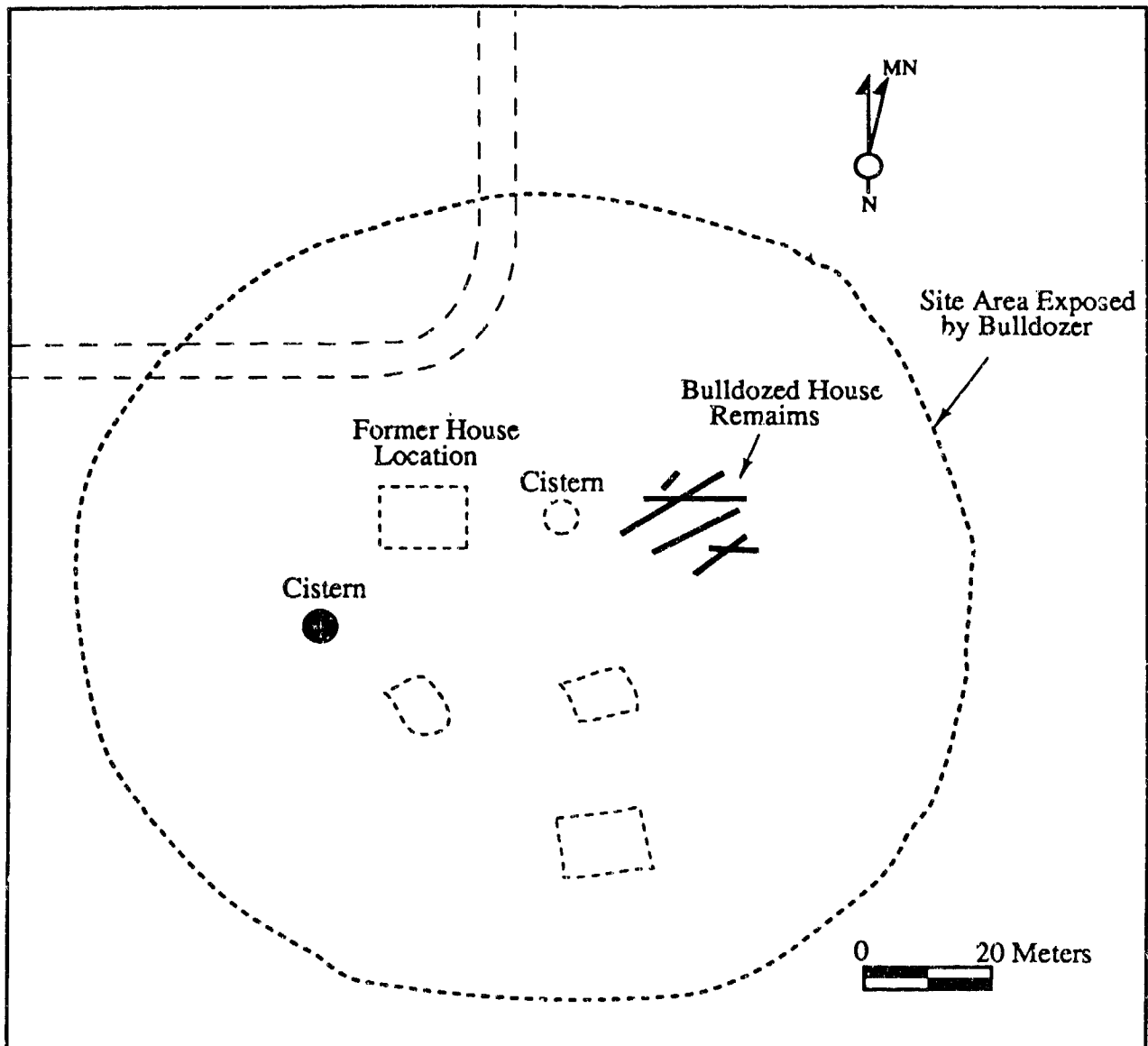


Figure 8-82. Plan of site 41DT160, showing areas of disturbance and the location of former structures and features.

eldest son, occupied 41DT160, which descendants refer to as "the old homelace." This points out the limits and liabilities of focusing solely on informant or deed information in the reconstruction of a site's history. Often the most accurate folk heritage is limited to only one or two generations removed from an original event.

#### *Archaeological Investigations*

Fieldwork conducted under the terms of Delivery Order Number 6 included site relocation

and close interval (5 m) pedestrian survey. A tree-ring date of 1878 was obtained from hewn sills which were left after the site had been bulldozed.

#### *Recommendations*

This site represents the second site of the Zephriah Dawson family. Although it does not possess archaeological integrity, it does possess historic interest. Therefore, it was recorded as a state site. Due to a lack of archaeological integrity, it is deemed clearly not eligible (Category III) for

the NRHP. Current information indicates that this site has low potential to address the material culture questions for the Historic period presented in the Research Design. Should future

information be found that warrants additional consideration, this site will be reevaluated for NRHP eligibility. Therefore, no further work is recommended at this time.

# Overview

# 9

J. M. Adovasio and David H. Journey

## INTRODUCTION

From May through August 1989, the Archaeology Research Program of Southern Methodist University conducted intensive and extensive examination of the Cooper Lake Delivery Order Number 6 study area. During the course of these investigations, 34 new archaeological sites were recorded and evaluated while 25 previously inventoried sites received additional hand and/or mechanical excavation.

The salient characteristics of these sites are summarized in Tables 9-1 to 9-3 and are discussed in the following sections by gross time period.

## SITE DISTRIBUTION

Twenty-four of the 59 sites in the Delivery Order Number 6 survey area contained only prehistoric components (see Table 9-1). Though the topographic setting of this study area is not representative of the greater Cooper Lake region, as it falls mainly in the uplands, the gross distribution of prehistoric sites is not unlike that evidenced elsewhere in the greater project area. Ten of the 24 prehistoric sites were located in floodplain settings, while the remainder were situated in upland ( $n=6$ ), floodplain/slope ( $n=4$ ), slope ( $n=2$ ), and upland/slope ( $n=2$ ) settings.

Fourteen archaeological sites exhibited mixed historic and prehistoric components (see Table 9-2). Eleven of these sites are located in the uplands and only three are situated in floodplain settings.

Twenty-one sites with exclusively Historic period occupations were recorded in the Delivery Order Number 6 study area (see Table 9-3). These sites are overwhelmingly ( $n=19$ ) located in upland and slope topographic settings. Only two sites are situated on floodplain or floodplain/slope landforms.

Interestingly, Late Prehistoric occupations are located primarily in the Nahatche landform which extends into the South Sulphur River floodplain north of Posey (Harpers Crossing). The Arnold site (41HP102) is located on this landform adjacent to Buggy Whip Creek. The frequency of pottery on sites in this general area (e.g., sites 41HP171 and 41HP172) suggests somewhat heavier or more-intensive Late Prehistoric exploitation in this part of the study area.

It should be noted that the distributions discussed above are based largely, though not exclusively, on surficial exposures. A deeply buried Late Prehistoric site (41HP175) was discovered during backhoe and trackhoe trenching along Finley Branch, and as Chapter 6 indicates, the potential for other buried sites exists along the floodplain apron adjacent to streams which emanate from the uplands (e.g., Finley Branch).

TABLE 9-1

Summary of Prehistoric Sites Investigated under Cooper Lake Delivery Order Number 6,  
by Landform, Temporal Association, and Recommended National Register Status

Site	Landform	Temporal Association	NR Status
<i>Previously Registered (n=10)</i>			
41HP91	Upland Ridge	Archaic(?)	III
41HP92	Upland Ridge	Undifferentiated Prehistoric	III
41HP93	Upland Ridge	Undifferentiated Prehistoric	III
41HP94	Base Slope	Undifferentiated Prehistoric	III
41HP95	Floodplain	Late Archaic	III
41HP96	Floodplain	Late Archaic-Late Prehistoric	III
41HP103	Floodplain	Late Archaic	III
41HP155	Upland/Slope	Late Prehistoric	III
41DT41	Slope	Late Archaic-Late Prehistoric	IV
41DT103	Upland	Undifferentiated Prehistoric	IV
<i>Newly Identified (n=14)</i>			
41HP159	Floodplain	Late Archaic	I
41HP160	Floodplain	Late Archaic(?)-Late Prehistoric	III
41HP164	Upland Ridge	Undifferentiated Prehistoric	III
41HP168	Floodplain	Late Archaic(?)	III
41HP171	Floodplain	Late Archaic-Late Prehistoric	III
41HP172 <sup>1</sup>	Floodplain	Late Archaic-Late Prehistoric	II
41HP174	Upland/Slope	Early Archaic-Late Archaic	II
41HP175	Floodplain	Late Prehistoric	II
41HP176	Upland	Undifferentiated Prehistoric	III
41DT149	Floodplain/Slope	Undifferentiated Prehistoric	III
41DT150	Floodplain/Slope	Undifferentiated Prehistoric	III
41DT151	Floodplain/Slope	Undifferentiated Prehistoric	III
41DT152	Floodplain	Undifferentiated Prehistoric	III
41DT156	Floodplain/Slope	Undifferentiated Prehistoric	III

- 1 Site 41HP172 is located outside of the Delivery Order Number 6 study area and, hence, was not funded for full evaluation. As the character and extent of its deposits are unknown, the site therefore is classified as Category II, despite intensive post-depositional disturbance.

### CHRONOLOGY OF AREAL USE

The 59 sites investigated in the Delivery Order Number 6 study area reflect occupation/utilization of the area from Late Paleo-Indian times through the recent Historic period.

Transitional Paleo-Indian to Early Archaic artifacts were recovered from the gravel train of Finley Branch and were also reported from upland/slope site 41HP174, located along Finley Branch. This site, reported by avocational

collectors, yielded San Patrice points as well as later forms, specifically Yarbrough points, reflecting Late Archaic *re-utilization* of this locality.

Middle Archaic use of one portion of the study area is demonstrated by a radiocarbon-dated feature at site 41HP159. At the time of the Delivery Order Number 6 investigations, this dendrocalibrated assay of  $3626 \pm 114$  B.C. ( $5676 \pm 114$  B.P.; SMU-2222) was the oldest obtained from any cultural context at Cooper Lake.



Late Archaic occupation of the study area is reflected by a minimum of two purely prehistoric sites which yielded Gary dart points and mixed prehistoric/historic sites with Late Archaic components.

Late Prehistoric (A.D. 1200-1700) components, evidenced by the presence of pottery, were identified on five purely prehistoric sites, while one purely Late Prehistoric site (41HP175) was defined on the basis of Fresno and Maud arrow points and ceramics which resembled the Avery, Poynor, and Ripley engraved and Bullard brushed types. The presence of slipped and engraved wares as well as Fresno points suggest a Late Caddoan ascription for this locality.

Historic components in mixed prehistoric and

historic sites (see Table 9-2) date as early as the 1850s-1860s (n=4) and 1880s-1890s (n=4), and as late as the 1950s-1970s (n=7). All of the earlier components are superimposed by twentieth century components at these sites, and six (43%) localities contain only twentieth century components.

Sites with pure Historic period components (see Table 9-3) span approximately the same time ranges in relatively equal proportions compared to the mixed prehistoric/historic localities. Only two of the pure historic sites (i.e., 41HP177 and 41DT118) have mid- to late nineteenth century components that are not superimposed by twentieth century components, and 11 (52%) of these sites contain purely twentieth century components.

TABLE 9-2

Summary of Prehistoric/Historic Sites Investigated under Cooper Lake Delivery Order Number 6, by Landform, Temporal Associations, and Recommended National Register Status

Site	Landform	Temporal Association	NR Status
<i>Previously Registered (n=4)</i>			
41HP102	Floodplain	Late Archaic-Early Ceramic-Late Prehistoric; 1880s-1930s	I
41HP144	Upland	Undifferentiated Prehistoric; 1920s-1970s	III
41HP145	Upland	Undifferentiated Prehistoric; 1890s-1940s	III
41HP158	Upland/Slope	Archaic-Late Prehistoric; 1920-1970s	III
<i>Newly Identified (n=10)</i>			
41HP162	Floodplain	Late Archaic-Late Prehistoric; 1920s-1960s	II
41HP163	Ridge	Undifferentiated Prehistoric; 1850s-1950s	III
41HP165	Ridge	Undifferentiated Prehistoric; 1930s-1970s	III
41HP166	Ridge	Late(?) Prehistoric; 1880s-1930s	III
41HP167	Ridge	Undifferentiated Prehistoric; 1900-1970	III
41HP170	Floodplain	Undifferentiated Prehistoric; 1850s-1920s	III

Table 9-2 (cont.)

Site	Landform	Temporal Association	NR Status
41HP173	Ridge/Slope	Undifferentiated Prehistoric; 1940s-1970s	III
41HP178	Upland	Undifferentiated Prehistoric; 1850s-1930s	III
41DT153	Slope/Upland	Late Archaic; 1890s-1930s	III
41DT154	Slope/Upland	Late Archaic-Late Prehistoric; 1860s-1920s	II

TABLE 9-3

Summary of Historic Sites Investigated under Cooper Lake Delivery Order Number 6,  
by Landform, Temporal Associations, and Recommended National Register Status

Site	Landform	Temporal Association	NR Status
<i>Previously Registered (n=11)</i>			
41DT87	Ridge	1880-1970s	IV
41DT88	Upland	1920-1960	IV
41DT90	Upland	1930-1970	IV
41DT91	Upland	1870-1930	IV
41DT99	Upland	1940-1970	IV
41DT100	Upland	1930-1960	IV
41DT101	Upland	1930-1970	IV
41DT102	Upland	1880-1980	IV
41DT118	Upland	1850s-1890s	III
41DT119	Upland	1880s-1950s	III
41DT120	Upland	1920-1950	III
<i>Newly Identified (n=10)</i>			
41HP143	Upland	1870s-1940s	III
41HP161	Floodplain	1900-1930s	III
41HP169	Ridge	1900-1950s	III
41HP177	Ridge	1850s-1880s	II
41DT148	Floodplain/Slope	1900-1950	III
41DT155	Slope	1850s-1950s	III
41DT157	Slope	1900-1950s	III
41DT158	Slope	1900-1950s	III
41DT159	Slope	1890-1950s	III
41DT160	Slope	1878-1950s	III

## INTENSITY OF AREAL UTILIZATION

Assuming that the recovered distribution of sites is statistically representative of the actual utilization of the Cooper Lake study area prehistorically, then, not surprisingly, there is a gradual increase in areal exploitation/utilization from Late Paleo-Indian through Late Archaic times. The number of Late Archaic components is significantly higher than earlier occupations, a trend evidenced not only elsewhere in the greater Cooper Lake study area but also elsewhere in Texas, specifically, and North America, generally.

As noted above, a substantial Late Prehistoric presence is also identified, especially in the areas of the Nahatche landform exposure.

## SUBSISTENCE AND SEASONALITY

Very few data directly relating to aboriginal subsistence strategies or seasonality of site use were recovered during the 1989 Delivery Order Number 6 investigations. Such information which indirectly suggests anything about these issues is discussed below.

## GENERAL CHARACTER OF SITE UTILIZATION

Though the scale of the 1989 excavations did not permit the acquisition of sufficient information to define or delimit the parameters either of individual prehistoric site use or, more generally, areal modes of exploitation, detailed examination of the lithic assemblages of several sites *does* offer insights into the general character of site utilization, at least at some loci.

As noted in Appendix A, the flaked stone artifacts and debitage assemblages from sites

41HP171, 41HP174, 41DT154 were carefully scrutinized to delineate reduction strategies as well as to detect possible patterns and parameters of site use. The results of this scrutiny suggest that site 41HP171 served as a bivouac or camp locus for intermediate to late-stage lithic processing, presumably utilizing already sorted and selected material derived from the nearby Uvalde veneer.

Conversely, though site 41HP174 is actually located on a veneer of Uvalde gravel, the high percentage of utilized flakes and relatively high frequency of specialized implements from this site suggest extensive expedient tool use, and perforce, subsistence-related activities at this locality. The absence of cores at this site suggests that any on-site tool production was affected on initial-edged or already primary-thinned biface forms.

The lithic assemblage from site 41DT154 likewise reflects late-stage lithic reduction at what is assumed to be, basically, a tool manufacturing and refurbishing locus.

Though these three sites can scarcely be considered representative of the Cooper Lake Delivery Order Number 6 study area, they do illustrate a range of site-use patterns which additional studies may elucidate or amplify.

## RECOMMENDATIONS

Of the 25 sites exhibiting exclusive prehistoric components, only four (i.e., sites 41HP159, 41HP172, 41HP174, and 41HP175) are recommended for additional investigation. Of the 14 sites with mixed prehistoric and historic components, three sites (i.e., 41HP102, 41HP162, and 41DT154) are recommended for additional work. Finally, a single purely historic site (i.e., 41HP177) is likewise recommended for additional work.

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# Representative Flaked Stone Artifacts and Debitage Assemblages

C. L. Pedler

## Appendix

# A

### INTRODUCTION

Twenty-four representative flaked stone artifacts recovered during investigations at Cooper Lake under Delivery Order Number 6 are illustrated in Figures A-1 through A-6. Descriptive and metric data are provided for each illustrated artifact in Tables A-1 and A-2. Additionally, the results of the analysis of these representative flaked stone debitage assemblages from the study area are presented in Table A-3, Table A-4, and in the following discussion.

A sample of flaked stone debitage was selected from the three largest flaked stone assemblages recovered during investigations at Cooper Lake under Delivery Order Number 6. These assemblages, which were recovered from sites 41HP171, 41HP174, and 41DT154 (see Table A-3), are considered to be complete and representative artifact assemblages with spatial integrity, and which represent a cross-valley profile from quarry to floodplain apron, to north of the South Sulphur River. The present study analyzed only complete debitage flakes for attributes such as percentage of dorsal cortex; mean length, width, and thickness; and mean platform thickness (see Table A-4). A limited amount of information may be gleaned from such an approach to a flaked stone analysis. As such, the present analysis should not be construed as an

exhaustive account of lithic technology in the Cooper Lake area, generally, or even in the specific assemblages under study. The present analysis can only provide direction for future research.

The measurement of dorsal cortex conducted for the present study may provide information for technological concerns, including the site entry pose of the raw material (e.g., unworked cobble vs. formed tool; see Shelly 1979), and the stages of reduction present (e.g., early-, or late-stage reduction). Coupling this information with metric attributes (i.e., maximum length, width, and thickness; and platform thickness) and percentages of other recovered flaked stone artifacts, it is possible to suggest which reduction strategies (e.g., biface reduction or core reduction) may have been employed at each site.

Biface reduction often produces wide (more often in an early stage of reduction), thin flakes with thin platform remnants (due to a tendency of soft-hammer percussion which often results in diffuse expanding bulbs of force, and the necessity of preserving platform area). Core reduction often produces flakes with thicker platform remnants and, concomitantly, greater maximum thicknesses, especially in an opportunistic core technology where preservation of platform areas is not as important as in a prepared core technology.

## RESULTS

### Site 41HP171

The analysis of the debitage sample from 41HP171 shows a somewhat disparate array of results in which it is difficult to discern meaningful trends. Specifically, mean platform thickness and mean flake thickness decrease in relation to decreasing amounts of cortex preserved on the specimens in the 76-100% and 51-75% cortex categories (see Table A-4), which suggests a progressive refinement of formed tools at the site. However, this trend is not maintained for the 1-50% cortex category, in which mean platform thickness and mean flake thickness increase substantially. This aberration is most likely due to the very small sample analyzed (13.5% of the total debitage recovered from the site).

Some tentative observations may be made, however. Since the site is located near but not directly on a Uvalde veneer (see Chapter 8, Results, this volume), it is conceivable that the site entry pose for flaked stone artifacts at site 41HP171 would be a primary-reduced form. This hypothesis assumes that testing of the raw material for homogeneity, and removal of poor quality material (e.g., cortex) occurred at the raw material source. The results of the debitage analysis for this site, if indeed reliable, seem to support this supposition in that most of the flakes analyzed fall into the 1-50% cortex category.

The low percentage of debitage in the 0% cortex category suggests that late-stage reduction did not occur with much frequency at site 41HP171. However, 15 projectile points were recovered, four of which were analyzed (see Table A-2). Three of these four points have been refurbished, suggesting that many of the projectile points recovered from site 41HP171 may have been transported to the site and subsequently discarded after new material had been gathered from the nearby gravel veneer and reduced to a transportable and useable form.

### Site 41HP174

Although site 41HP174 is located on a veneer of Uvalde gravel (see Chapter 8, Results, this volume), the percentage of flaked stone debitage

retaining substantial amounts of cortex (51-100%) is low (20%). This phenomenon could be related to the nature of cortex, a rind which does not extend into the parent mass. It is conceivable that the number of flake removals needed to decorticate a piece of raw material would be less than the number of subsequent removals needed to reduce the piece.

This scenario must, of course, take into account the initial and final form of the piece. Another possible explanation for the relatively low percentage of flakes in the 51-100% cortex category concerns the suitability of the raw material available at the site. If aboriginal flintworkers did not consider the locally available material to be suitable, they would have transported lithic material to the site for reduction, and thus the debitage produced would exhibit less cortex—as appears to be indicated by the sample. But regardless of whether the locally available raw material was suitable for knapping, it appears that the site was utilized for reasons other than strictly lithic raw material procurement.

The presence of a significant number of utilized flakes (23% of the entire prehistoric assemblage) suggest that expedient tool use appears to have been a major activity at the site. Additionally, 18 specialized implements (unifacially modified and utilized flakes) were recovered. Furthermore, two of the seven analyzed projectile points (see Table A-3) show evidence of utilization, which suggest that some sort of subsistence-related processing activities occurred at the site. This hypothesis supplies a reason for the site's occupation and also establishes a possible explanation for the absence of primary-reduction debitage. The flaked stone specimens may have been transported to site 41HP174 in an initial-edged or primary-thinned bifacial form (Callahan 1979), a hypothesis supported by the absence of cores in the site assemblage.

Both Kelly (1988) and Beldurian (1991) have shown that bifaces have a threefold existence in prehistoric lithic technology. Specifically, bifaces are not only the byproduct of the shaping or thinning process, but also function as long-use-life tools and cores. Following this line of reasoning, a biface is a highly efficient technological resource since it provides sharp working edges as well as flakes for expedient tool use or for flake blanks.

Eventually, the biface could also be thinned to a refined form. Such a technological strategy provides the necessary tools for processing in addition to providing a transportable and useable form. The single biface illustrated and described from 41HP174 (see Figure A-5 and Table A-1) is a relatively large specimen (82.43 g) which could have served as a core. One projectile point has been illustrated and described for 41HP174 (see Figure A-5, and Table A-2). This specimen shows a curved longitudinal cross section, which suggests that it was manufactured from a biface thinning flake.

Although relatively thin platform remnants are expected for debitage produced in a biface reduction strategy, the remnants represented in the 41HP174 sample are not consistently thinner than those represented at sites 41HP171 or 41DT154. This may be due to the large size of the bifaces recovered from site 41HP174 (see Table A-1, representative specimen 0.035) in addition to the recovery of small bifaces from 41DT154 (see Table A-1). Bifaces were also recovered from 41HP171. The debitage from 41HP174 tends to show wide flakes (i.e., a length:width ratio of near 1:1) as one would expect in an assemblage produced by biface reduction; however, early-stage reduction (51-100% cortex) does not consistently produce wide flakes, nor is the 41HP174 debitage wider than specimens in the assemblages from sites 41HP171 and 41DT154.

Assemblages from sites 41HP174 and 41DT154 seem to show evidence of at least limited core reduction, and thus the flakes within those assemblages should show dimensions closer to those of linear flakes. The attributes measured in this study (i.e., maximum length, width, and thickness) should be studied in relation to other technological attributes (e.g., extent and kind of platform preparation, platform remnant shape, angle of the platform remnant, and extent and pattern of flake scar retention on the dorsal face) in order to better understand the technology operating at this site.

#### Site 41DT154

Of the three sites discussed here, site 41DT154 is located the farthest distance away from a potential raw material source (i.e., a

Uvalde gravel veneer). Assuming that the prehistoric occupants of the site tested the homogeneity of the raw material and removed the cortex at the raw material source, and that the distance from the source involved an intermediate stop where the material was further reduced to a transportable and useable form, one would expect the site entry pose of material at 41DT154 to be in a secondary-reduced or late-stage form.

This supposition is supported by the sample of debitage analyzed. The late-stage category (0% cortex) contains the greatest percentage of flaked stone debitage (51%; see Table A-4). Secondary or mid-stage reduction (1-50% cortex) is also represented in a relatively high percentage (32%; see Table A-4).

The 41DT154 debitage sample shows relatively wide, thin flakes with thin platform remnants, which suggest that a biface reduction strategy is in operation at the site. The hypothesis is supported by the recovery of a relatively large number of bifaces and projectile points (see Table A-3). Two of the recovered bifaces are illustrated and described (see Figure A-2). Both of these specimens show extensive knapping errors. Neither specimen shows use-related wear, which in turn suggests that the specimens were discarded at the site directly after their aborted manufacture.

Additionally, two of the five projectile points show manufacture-related perverse fractures (see Table A-2), suggesting that they too were manufactured at the site.

Several cores were also recovered from site 41DT154 (see Table A-3). Core reduction tends to produce relatively thicker and more linear debitage (see discussion in the Introduction, above). Core reduction debitage does not seem to be represented in the analyzed sample. This phenomenon may be in part explained by the position of cores in the technological path expressed at site 41DT154. Due to the relatively small size of the representative bifaces (see Table A-1) recovered from this site, they (as cores) could not have functioned as cores for the production of flake blanks, but rather, probably served simply as preforms and working implements.

Conceivably, secondary-reduced or late-stage cores were transported to the site for the subsequent production of flake blanks for biface thinning activities and refined tool manufacture.

## SUMMARY

Several distinctive site interpretations are represented in the assemblages recovered from sites 41HP171, 41HP174, and 41DT154. Although the expected differences were thought to relate to the distance from the raw material source (see Chapter 8, Results, this volume), the results show that there are other factors involved. The tentative scenario that presents itself for site 41HP171 is that this locality served as a secondary reduction camp. After procurement, primary-reduced material was brought to the site and further reduced to a transportable and useable form. Old or exhausted pieces were discarded and the tool kit was replenished with new material. Although site 41HP174 was originally thought to be a primary reduction site because of a gravel veneer located at the site (see Chapter 8, Results), this locality appears to be primarily a subsistence-related processing station with secondary reduction activities providing tools for the primary focus. Site 41DT154 served as a tool manufacturing and refurbishing locus. Although all three sites are multi-component loci (41HP171—Late Archaic and Late Prehistoric; 41HP174—Paleo-Indian and Late Archaic; 41DT154—Late Archaic and Late Prehistoric), these components cannot be addressed separately under the present study. A more complete study must involve a analysis of the complete assemblage. The vertical and horizontal

integrity of the assemblage must also be established in order to define activity areas and to ultimately segregate components.

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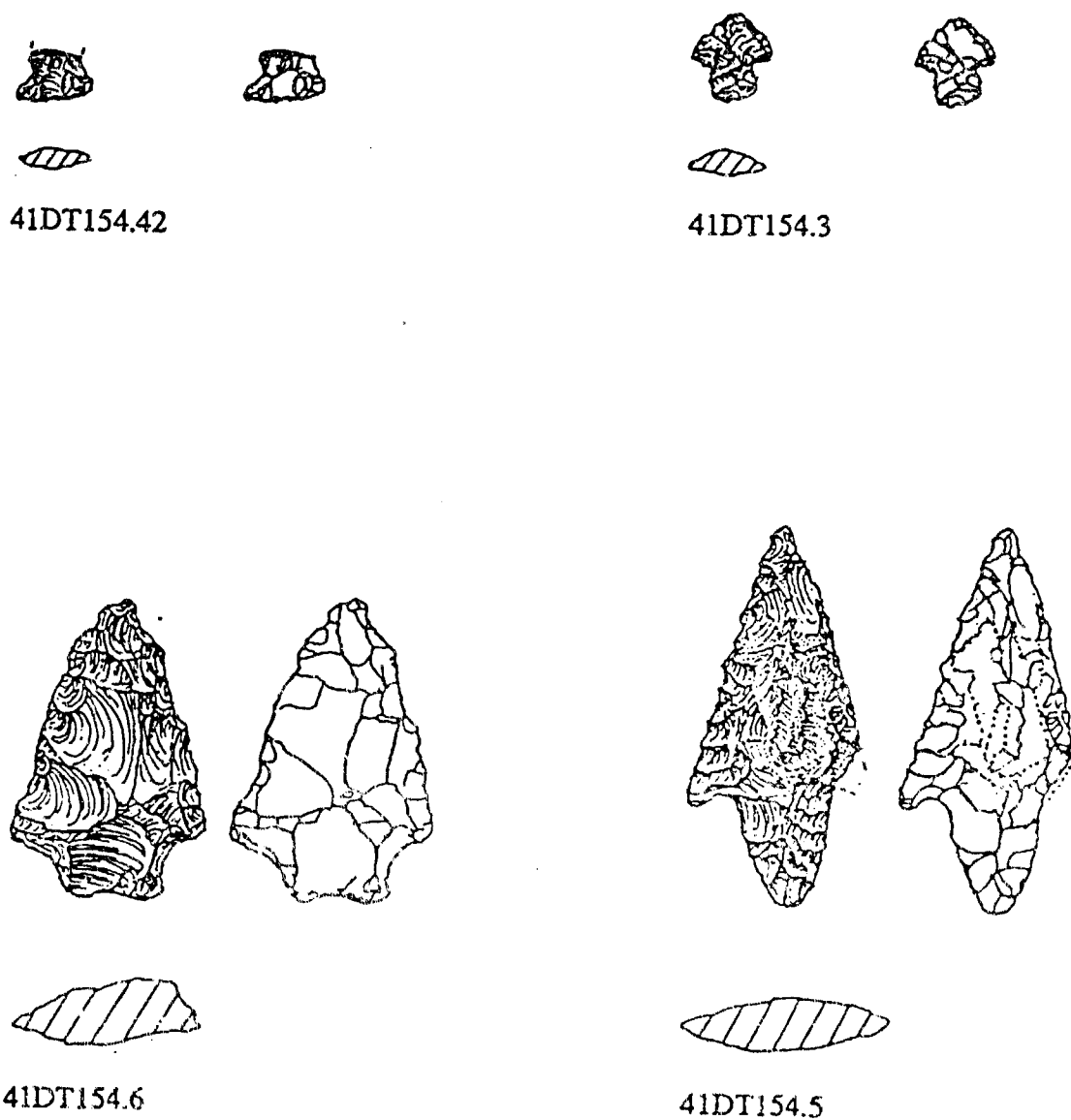


Figure A-1. Arrow points (top row) and dart points (bottom row) recovered from site 41DT154 in the Delivery Order Number 6 study area at Cooper Lake.

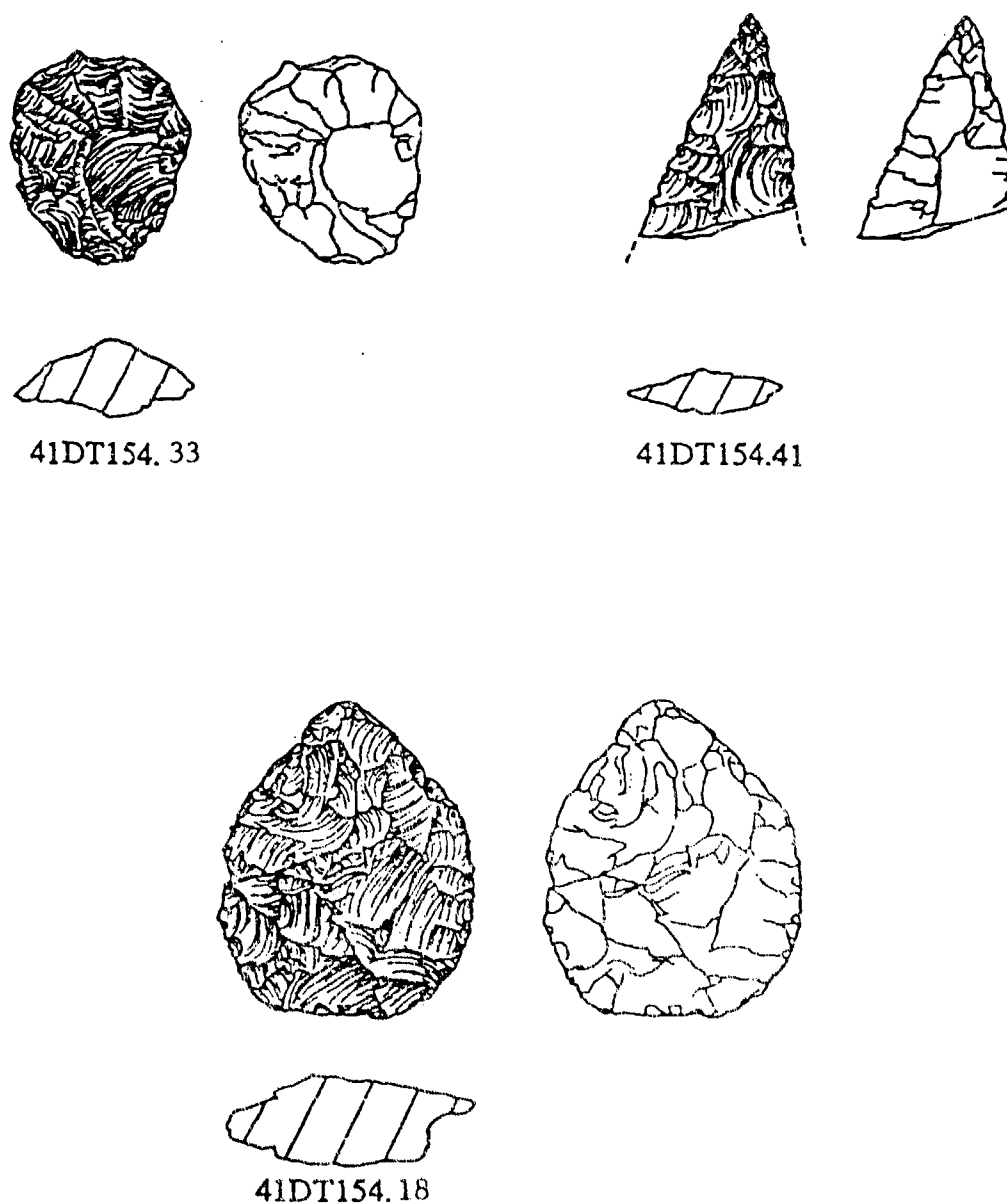


Figure A-2. Preforms (top left and bottom) and dart point fragment (top right) recovered from site 41DT154 in the Delivery Order Number 6 study area at Cooper Lake.

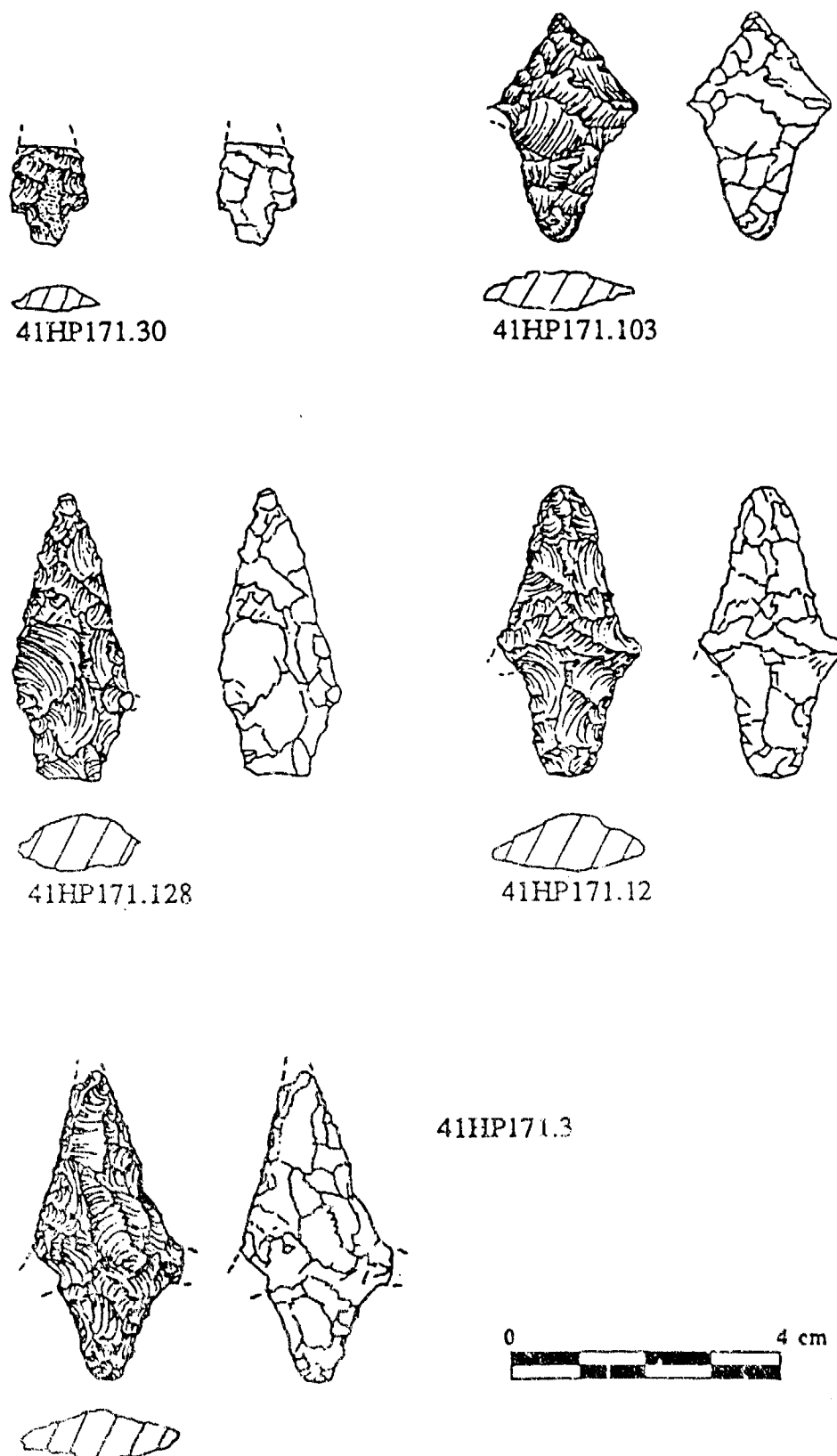


Figure A-3. Arrow point (top left) and dart points recovered from site 41HP171 in the Delivery Order Number 6 study area at Cooper Lake.

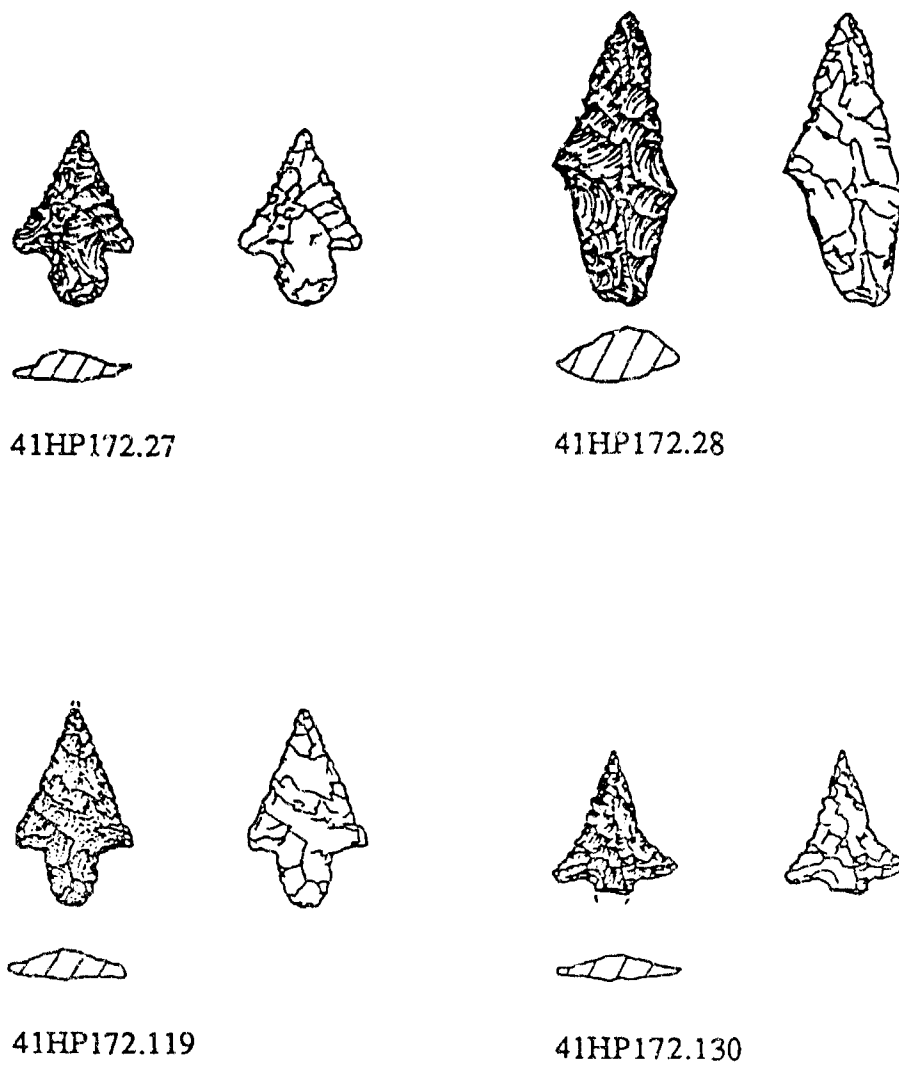


Figure A-4. Arrow points and dart point (top right) recovered from site 41HP172 in the Delivery Order Number 6 study area at Cooper Lake.

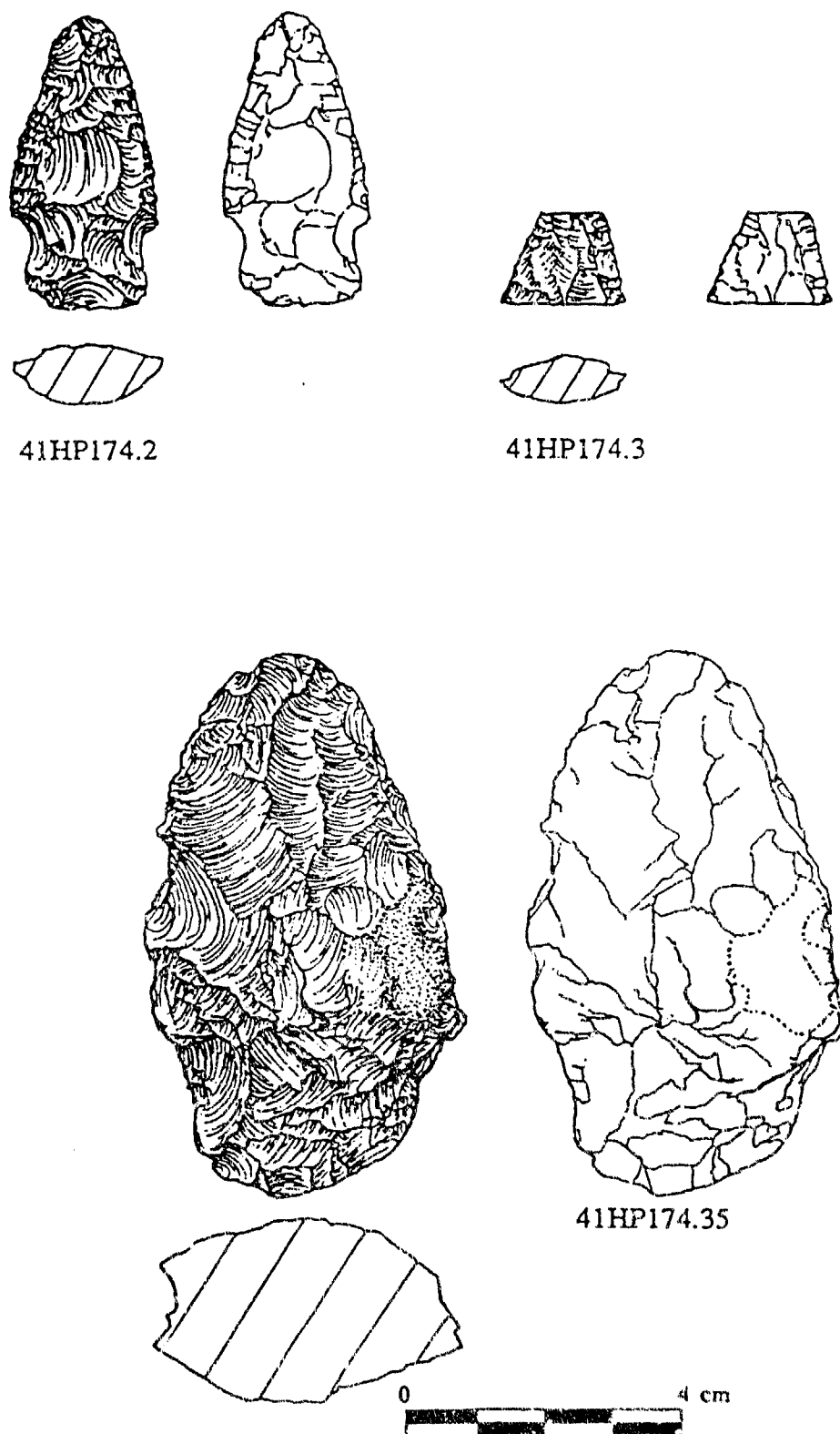


Figure A-5. Dart points and core (bottom) recovered from site 41HP174 in the Delivery Order Number 6 study area at Cooper Lake.



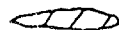
41HP175.6



41HP175.19



41HP175.203



41HP175.317



41HP175.319



Figure A-6. Arrow points recovered from site 41HP175 in the Delivery Order Number 6 study area at Cooper Lake.

TABLE A-1

Descriptive and Metric Data for Representative Bifaces Recovered from  
the Delivery Order Number 6 Study Area at Cooper Lake

Site Provenience Catalog No.	Raw Material	Portion Preserved	Fracture Type	Outline	Cross Section	Longitudinal Section	Modification	Thermal Alteration	Length (mm)	Width (mm)	Thickness (mm)	Weight (g)
<b>41DT154</b>												
BHT 38 Surface 1.18 <sup>a</sup>	QTE	WHL	—	OV	ABC	ABC	G/D	ABS	42.3	32.6	12.3	15.4
S5 W0 20-40 CM 13.2.33 <sup>a</sup>	QTE	WHL	--	OV	PC	PC	G/D	ABS	28.9	23.0	10.0	6.04
<b>41HP174</b>												
Surface 0.0.35 <sup>b</sup>	QTE	WHL	--	OV	ABC	ABC	GRND	ABS	77.5	43.0	25.9	82.43

KEY: Raw Material: QTE = quartzite. Portion Preserved: WHL = whole. Outline: OV = ovate/oval. Cross Section and Longitudinal Section: ABC = Asymmetrically biconvex; PC = plano-convex. Modification: G/D = grinding and dragging platform preparation; GRND = platform grinding. Thermal Alteration: ABS = absent.

- a Both specimens show knapping errors in the form of stacked, deep atep terminations on one face. Although the bifaces differ in size, both specimens appear to be in a final stage of reduction (i.e., 0% cortex, a close lineal edge offset, and 100% opposing flake scar contact).
- b This specimen shows a large area of stacked stepped terminations. This area appears to be a major knapping flaw and most likely accounts for the discard of this piece before final thinning. An absence of use-related attrition suggests that this specimen was not being used as a cutting or scraping implement at the time of its discard.

TABLE A-2

Descriptive and Metric Data for Representative Projectile Points Recovered from  
the Delivery Order Number 6 Study Area at Cooper Lake

Site Point Type Provenience Catalog No.	Raw Material	Portion Preserved	Fracture Type	Outline	Cross Section	Longitudinal Section	Modification	Thermal Alteration	Length (mm)	Width (mm)	Thickness (mm)	Weight (g)
<b>41HP171</b>												
<i>Bonham</i> Surface 0.0.30	QTE	PROX	END	—	PC	—	ABS	ABS	—	11.3	3.10.06	
<i>Dawson</i> Surface 0.0.12 <sup>a</sup>	QTE	FRAG	E/E	INC	BT	BC	R/G	ABS	43.4	21.2	8.3	5.58
<i>Gary</i> Surface 0.0.3 0.0.103 <sup>b</sup>	QTE QTE	FRAG WHL	E/E —	ATRI TRI	ABT ABC	BC CC	R/U U/R/G	ABS PRES	— 34.6	22.0 21.2	7.0 5.7	5.16 3.06
<i>Kent</i> Surface 0.0.128 <sup>c</sup>	QTE	FRAG	PERV	TRI	ABT	BC	R/G	ABS	43.4	18.0	8.4	5.25
<b>41HP172</b>												
<i>Alba</i> Surface 0.0.27 <sup>d</sup> 0.0.119 <sup>e</sup>	QTE QTE	WHL FRAG	— END	ATRI ATRI	PC PC	PC PC	G G/U	PRES PRES	23.3 26.5	15.8 15.5	4.0 3.7	0.89 1.07
<i>Gary</i> Surface 0.0.28 <sup>f</sup>	QTE	WHL	—	ATRI	TRI	PC	R/U	PRES	39.3	16.1	6.9	3.49
<i>Untyped</i> Surface 0.0.130 <sup>g</sup>	UNK	DIST	PERV	INC	ABT	—	R/D	ABS	—	16.2	3.2	0.64



Table A-2 (cont.)

Site Point Type Provenience Catalog No.	Raw Material	Portion Preserved	Fracture Type	Outline	Cross Section	Longitudinal Section	Modification	Thermal Alteration	Length (mm)	Width (mm)	Thickness (mm)	Weight (g)
<b>41HP174</b>												
<i>Yarbrough</i> Surface 0.0.2 <sup>a</sup>	QTE	FRAG	IMP	OV	ABT	CC	G	PRES	43.0	20.9	8.5	7.88
<b>41HP175</b>												
<i>Bonham</i> EU 1 (Backdirt) 0.0.6 <sup>b</sup>	QTE	WHL	—	INC	LEN	LEN	GRND	ABS	17.2	14.2	2.6	0.43
<i>Perdiz</i> EU 1 80-90 cm 1.2.19 <sup>i</sup>	QTE	PROX	END	—	LEN	—	GRND	ABS	—	16.5	3.1	0.48
E. END (Backdirt) 0.0.317 <sup>i</sup>	QTE	FRAG	END	INC	LEN	LEN	GRND	PRES	25.3	14.7	2.9	0.60
<i>Talco</i> N Trackhoe (Backdirt) 0.0.203 0.0.319 <sup>j</sup>	QTE	PROX	PERV	—	PC	—	UTL	PRES	—	16.3	3.7	0.94
	QTE	PROX	END	—	LEN	—	UTL	PRES	—	14.3	2.3	0.36
<b>41DT154</b>												
<i>Alba</i> N10 W0 0-20 cm 5.1.3	QTE	WHL	—	TRI	ABC	PC	R/G	PRES	11.1	10.7	4.0	0.34
<i>Gary</i> BHT 37 0-60 cm BHT 37.1.5	QTE	WHL	—	TRI	BC	BC	R/G	PRES	52.0	26.4	7.0	7.09

Table A-2 (cont.)

Site Point Type Provenience Catalog No.	Raw Material	Portion Preserved	Fracture Type	Outline	Cross Section	Longitudinal Section	Modification	Thermal Alteration	Length (mm)	Width (mm)	Thickness (mm)	Weight (g)
<b>Marshall</b>												
BHT 37												
0-60 cm												
BHT 37.1.6	QTE	WHL	—	TRI	PC	PC	R/G	PRES	40.0	23.4	8.0	6.78
<b>Untyped</b>												
N10 E10												
40-60 cm												
4.3.41	QTE	DIST	PERV	—	ABC	CC	—	ABS	—	19.0	6.0	2.54
4.3.42 <sup>h</sup>	QTE	PROX	PERV	—	BC	—	G	PRES	—	10.6	3.0	0.22

KEY: Raw Material: QTE = Ulvalde quartzite; UNK = unknown. Portion Preserved: DIST = distal; FRAG = fragmentary; PROX = proximal; WHL = whole. Fracture Type: E/E = double end shock; END = end shock; IMP = impact; PERV = perverse; RAD = radial; TMF = thermal fracture. Outline: ATRI = asymmetrically triangular; INC = incurvate; OV = ovate/oval; TRI = triangular. Cross Section and Longitudinal Section: ABC = Asymmetrically biconvex; ABT = asymmetrically bitriangular; BC = biconvex; BT = bitriangular; CC = concavo-convex; PC = plano-convex; LEN = lenticular. Modification: ABS = absent; DRAG = dragging; D/RHS = dragging and resharpening; G/D = grinding and dragging; GRND = platform grinding; G/U = grinding and utilization; R/D = resharpening and dragging; RSHP = resharpening; R/G = resharpening and utilization; R/U = resharpening and utilization; U/R/G = utilization, resharpening, and grinding; UTIL = utilization. Thermal Alteration: ABS = absent; PRES = present.

- a A small portion of cortex is retained on the basal margin of this specimen. Although the cortex is red the specimen does not appear to be thermally altered. Grinding is retained only on the hafting element of this specimen.
- b The curved longitudinal cross-section of this specimen suggests that it was manufactured on a biface thinning flake.
- c The perverse fracture is located on the proximal portion of the specimen. Grinding occurs near areas of stacked step terminations.
- d Grinding is present on both shoulders and one lateral margin near the distal portion of the specimen.
- e Grinding is present on the shoulders only.
- f Use-related attrition occurs on one lateral margin of the distal portion. Additional attrition is present below the shoulders and is probably related to hafting.
- g This specimen was manufactured from a fine-grained green quartzite.
- h Grinding is present on the lateral margins of the hafting element.
- i Grinding is present on the hafting element (including the basal margin).
- j The utilization retained on this specimen occurs on one lateral margin where it is truncated by the end shock fracture.

TABLE A-3

Distribution of Flaked Stone Artifact Types Within Representative Flaked Stone Assemblages  
Recovered from the Delivery Order Number 6 Study Area at Cooper Lake

Site	Cores		Bifaces		Points		Spec. Imp.		Flakes		Total
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
41HP171	3	(1.3)	8	(3.4)	15	(6.4)	2	(0.8)	208	(88.1)	236
41HP174	—	(—)	25	(3.4)	2	(0.3)	18	(2.5)	687	(93.8)	732
41DT154	11	(1.2)	20	(2.1)	7	(0.7)	5	(0.5)	900	(95.4)	943

NOTE: Although most of the artifacts appear to be procured from the Ulvalde gravels and appear to be the Ogallala quartzite (with the exception of pressure flakes recovered from 41HP174 which were of a non-local chert) the assemblage shows variation in color and texture which, if characterized for each artifact, could aid the identification of specific knapping episodes and activity areas.

TABLE A-4

Summary of Metric Data for Debitage Sample from Sites 41DT154, 41HP171, and 41HP174  
in the Delivery Order Number 7 Study Area at Cooper Lake

Flake Class Site	Total Flakes		Mean Length (mm)	Mean Width (mm)	Mean Thickness (mm) <sup>a</sup>	Mean Platform Thickness (mm)
	n	(%)				
<b>% Cortex</b>						
41DT154	160	(51)	13.8	13.8	2.8	2.4
41HP171	3	(13)	57.3	59.3	12.7	6.7
41HP174	72	(36)	21.1	19.3	6.8	5.5
<b>1-50% Cortex</b>						
41DT154	101	(32)	14.6	14.2	3.5	3.3
41HP171	15	(65)	19.7	15.3	13.0	11.7
41HP174	89	(44)	25.6	22.8	8.1	6.2
<b>51-75% Cortex</b>						
41DT154	19	(6)	15.0	14.0	4.1	4.3
41HP171	2	(9)	16.5	15.0	4.0	6.0
41HP174	15	(7)	35.5	22.5	12.8	7.8
<b>76-100% Cortex</b>						
41DT154	33	(11)	18.5	14.2	3.8	3.3
41HP171	3	(13)	17.0	13.7	4.3	8.7
41HP174	26	(13)	29.0	28.7	8.1	6.2

# Prehistoric Ceramics from Selected Sites in the Delivery Order Number 6 Study Area

Frank Winchell

Appendix

## B

### INTRODUCTION

The analysis of ceramics from the Delivery Order Number 6 study area followed the preliminary work of Cliff, Perttula, and Winchell (1993) on the Cooper Lake ceramics recovered during the 1987 season. The analytical framework was based upon the standard definitions and nomenclature of the Type-Variety System (Wheat, Gifford, and Wasley 1958; Phillips 1958; Smith, Willey, and Gifford 1960; Robertson 1980; Cliff, Perttula, and Winchell 1993). Once the detailed analysis was completed, all sherds were placed into discrete ware groups. Wares were defined by associations of particular technological or stylistic attributes and qualities in the paste. Attributes such as shell or grog temper were used to define a specific ware.

Each ware group was further subdivided into either named or "provisional" the latter being defined by a particular exterior surface treatment or decoration such as smoothed, burnished, red filmed, incised, engraved, etc.

For the purposes of this study, "provisional" types were labeled as such because they could only be identified by particular sorting criteria. Unlike true historic types, none of the provisional types within this particular assemblage could be shown to be significant in either a specific temporal or spatial context. However, when particular sherds

did possess clear diagnostic attributes, they were matched with established historic types.

Established, named type designations (Suhm and Jelks 1962) were used when a sherd could be identified to a specific historic type. Common Caddoan associated ceramic types identified by previous researchers of Cooper Lake (Hatzenbuehler and Harris 1949; Hatzenbuehler 1948, 1950a, 1950b, 1951, 1953; Moorman and Jelks 1952; Harris 1955; Duffield 1959; Gilmore and Hoffrichter 1964; Hyatt and Skinner 1971; Hyatt, Butler, and Mosca 1974; Hyatt and Doehner 1975; Doehner and Larson 1978; Doehner, Peter, and Skinner 1978; Perttula 1988b; Moir, McGregor, and Journey 1993) include Coles Creek Incised, Williams Plain, Crockett Corvilinear Incised, Dunkin Incised, Pennington Punctated Incised, Canton Incised, Ripley Engraved, and Poynor Engraved.

As recently noted by Brown (1991:1), the archaeological area concept has been a dominant theme in research within the broadly defined Caddoan area since the founding Caddo Conference (Krieger 1947). Since that time archaeologists have focused on building regional or subregional cultural sequences rather than addressing questions regarding the age and sequencing of archaeological manifestations. The implications of this trend have relevance to Cooper Lake, since it lies in a boundary zone between

subregional archaeological manifestations. Traits from the Caddoan ceramic complex (Krieger 1947:1233; Webb 1961:19; Davis 1970:40; Hoffman 1970:160; Wyckoff 1974:65; Story 1981; Thurmond 1981; Schambach and Rackerby 1982; Heartfield, Price, and Greene, Inc. 1988:6-1 to 6-53) have been identified at Cooper Lake. In addition, Lower Mississippi Valley-like and Coles Creek-like specimens have been recovered from 41HP102 (Gadus et al. 1991:95) and suggest that cultural influences have been derived from several areas. This ceramic analysis was designed to elucidate as much technological or stylistic information as possible, and yet provide sufficient information on the established typologies to suggest inter-regional affiliations.

Archaeological investigations recovered 156 sherds from six sites (41HP175, 41HP171, 41HP166, 41HP162, 41HP160, and 41HP102) within the areas surveyed and evaluated in this study. Of these 156 sherds, 86 specimens, or 56.8% of the total sample, were large enough to be analyzed for temper and paste information. This included all body sherds with diameters greater than 0.5 in, all rim sherds, and all sherds with decorations, regardless of size. Undecorated body sherds with diameters under 0.5 in were not used in the analysis.

General attributes were recorded for each of the sherds used in the analysis and coded on standard computer sheets. These attributes include established type designation, exterior surface treatment, exterior color, interior surface treatment, interior color, decoration, sherd class, sherd thickness, sherd size, paste, paste color, sherd diameter, rim orientation, unique artifact number, unit, level, and site. Exterior and interior surface treatments were used to define the finish of a particular sherd. Examples include burnished, slipped, smoothed, brushed, red filmed, etc. Exterior, interior, and paste colors were defined by using the Munsell Soil Color Charts. The color of each sherd was listed by its descriptive nomenclature and by the corresponding alpha numeric code.

Decoration was used to define any particular trait on a sherd beyond surface finish. Examples include incising, engraving, applique, etc. Paste was defined by the texture and compaction of the sherd fabric and by the content and size of the

aplastic inclusions in the paste. A small portion of each sherd in the analysis was chipped (to expose a fresh paste surface) and examined under a stereo microscope (20x to 60x), to identify the paste characteristics and nature of the aplastic inclusions.

During stereoscopic inspection, a standardized grain-size scale was used to determine the size of the temper and aplastics in the paste of each sherd. This grain-size scale was composed of a rectangular piece of cardboard with six strips of pasted quartz grains of six size grades based on the Wentworth Scale. The six size grades were silt (< 0.063 mm), very fine (0.063-0.125 mm), fine (0.125-0.25 mm), medium (0.25-0.5 mm), coarse (0.5-1.0 mm), and very coarse (1.0-2.0 mm). The grain-size scale was made so it could be slid alongside an exposed sherd edge until one of the size grade strips matched the overall grain texture of the paste.

Sherd class referred to the location of a sherd on a vessel. Rims, upper body sherds, lower body sherds, and bases are examples of particular sherd classes. On many occasions, small body sherds could not be identified as being either "lower" or "upper" and were simply classed as body sherds. Sherd diameters were taken on rims or body sherds which were large enough to show vessel curvature. These particular sherds were placed on a series of drawn concentric circles (given at 1 cm intervals), oriented into their proper position (in respect to their position on a particular vessel), and fitted within the closest circle. Thus, if a rim sherd yielded a certain diameter, a vessel orifice diameter could be extrapolated. Likewise, if a body sherd from the mid portion of a vessel yielded a certain diameter, a maximum vessel diameter could be estimated. Vessels with estimated maximum diameters less than 10 cm were considered to be small. Vessels with maximum diameters greater than 10 cm, but not exceeding 35 cm, were considered medium sized, while those with maximum diameters greater than 35 cm were considered large.

Lower and upper parts of vessels could also be estimated from basal sherds and upper body sherds in the same fashion. When rim sherds could be oriented, a rim angle was taken as well. This was done by lining up the rim, oriented in its proper position, against a series of lines drawn at

10° intervals, fanning from 30° (acute) to 150° (obtuse). Rims with angles from 30°-70° were classified as jars with restricted orifices. Rims with angles of 80°-100° represented vertical-sided bowls, and rims with angles greater than 100° as flaring-walled bowls. Sherd thicknesses were measured to the nearest millimeter and were used to estimate wall thickness of the entire vessel.

The ceramic descriptions below begin with listing the provisional or established ceramic type. This is followed by the corresponding ware, the frequency of the sherds within the provisional type, and the provenience where the sherds were found.

The Principal Identifying Attributes are the sorting criteria which define each of the provisional or established types. All sherds within a particular provisional or established type must possess those attributes listed under the Principal Identifying Attributes.

Pastes and Inclusions describe the general paste and temper characteristics of each of the provisional or established types. Other than color characteristics, the pastes of all sherds within a particular ware are indistinguishable from one another regardless of the provisional or established type to which they belonged. Thus, to avoid redundancy, once the paste of a ware is defined in the leading provisional type description, paste descriptions which follow are described by color alone.

Surface Treatment and Decoration describe the exterior and interior surface finish of the sherds and any additional decorative traits. Characteristics such as the construction technique or the way a particular finish was executed, are discussed as well, when applicable or present. Descriptions of exterior and interior surface colors are also included.

Form is the last variable described in the ceramic descriptions, and is the most subjective. Sherds in this analysis were primarily very small, and no large vessel portions were recovered from the tested sites. The only exceptions are the sherds from the deeply buried archaeological deposit at 41HP175. By using sherd orientations, sherd curvatures and contours, rims, bases, and sherd thicknesses, the vessel size and shape can be generally estimated. In addition, an estimate on the minimum number of vessels present is made

within each provisional or established type, when possible.

## PRELIMINARY OBSERVATIONS AND COMPARISONS

In the current study, five wares were established: (1) Shell Tempered, (2) Grog Tempered, (3) Grog Tempered Grit Paste, (4) Grog and Bone Tempered Grit Paste, and (5) Sandy Paste. Basically, the Shell Tempered and Grog Tempered wares in this study match the Shell and Grog Tempered Wares established by Cliff, Perttula, and Winchell (1993).

An attempt was made in this study to further subdivide the Grit Ware established by Cliff, Perttula, and Winchell (1993) into Grog Tempered Grit Paste and Grog and Bone Tempered Grit Paste. It was felt that a distinction should be made between a sherd of grit paste, tempered without grog, and one tempered with grog. Furthermore, it was felt that a grit paste tempered with grog and bone should be separated from a grit paste tempered only with grog. The reasoning behind these subdivisions is the fact that the addition of grog and bone, separate or together, may indicate a conscious choice by the potter. There is no question that two distinct grit pastes exist (one with bone and the other with bone and grog) and that there is the possibility that a grit paste without grog or bone temper may yet be discovered in the Cooper Lake area.

It should also be noted that in this study "grog tempered" is supplanted by the term "grog paste." Grit is defined in this study (i.e., Cliff, Perttula, and Winchell 1993) by the presence of significant portions of mineral inclusions (mostly composed of quartz grains) in the paste. However, the word "temper" implies that the potter consciously added amounts of grit to the paste. In this particular analysis, there was no way of telling the difference between naturally occurring mineral inclusions in the paste with mineral inclusions which may have been added later, in contrast to the grog and bone discussed above.

In fact, there seems to be more evidence supporting that the "grit" in the pastes were natural sediments present in the clays. This inference is based on two primary observations.

First, natural mineral sediments of silt size or larger are common in clays used by prehistoric potters in Texas. Second, when mineral grains are added to the paste as temper, they are distinctly larger than the other, smaller natural inclusions without a continuum of grain sizes. Thus, the use of the term "paste" following the word "grit" or "sandy" in the present study implies that mineral inclusions described within a particular paste are naturally occurring.

Provisional types in this study also more or less correspond to comparable provisional types listed by Cliff, Perttula, and Winchell (1993). The provisional types used in this study are simply descriptive categories for sherds which can be sorted according to paste, exterior surface treatment, and decoration. Most of the sherds used in this analysis, however, are very small and fragmentary. In addition, very few rims were recovered. As a result, it is not known to what extent vessels were burnished, smoothed, or decorated or how these treatments varied on a single vessel.

It is quite possible that the exteriors of many of the decorated vessels were only partially decorated on their surfaces, leaving large spaces which were left undecorated. As a consequence, many of the plain or undecorated burnished body sherds could represent either plain or undecorated vessels, or could be the undecorated portions of some of the decorated types. At this point, there is simply no way of knowing which may be the case.

Ultimately, the classification of sherds into plain and undecorated provisional types in this study is based on the assumption that these types represent plain or undecorated vessels. When more and, particularly, larger sherds, become available for analysis, it is possible that some of these provisional types can be better defined in terms of whole vessels.

## CERAMIC DESCRIPTIONS

### Shell Tempered Plain

**Ware:** Shell Tempered.

**Frequency:** Fourteen sherds, including one rim.

**Provenience:** 41HP175 (general surface and

Trench 1, Level 1) and 41HP102N (Shovel Test 3, Level 1).

#### *Principal Identifying Attributes:*

1. Smoothed exteriors.
2. Shell-tempered paste.

**Pastes and Inclusions:** Pastes are tempered with crushed shell averaging 2 mm in diameter. In all cases, the shell has weathered out leaving thin, laminar voids in the paste which are usually orientated parallel to the sherd wall. The leaching out of the shell in these particular sherds should be noted in contrast to the Shell Tempered Plain sherds recorded by Cliff, Perttula, and Winchell (1993:B-60) which still had visible pieces of shell in the paste. Other than the shell temper, the pastes contain moderate amounts (20-40%) of silt-sized (<0.63 mm) grains of quartz and smaller amounts of unidentified silicates which appear to be natural inclusions in the clay. Sherds are light weight and soft. The colors of the pastes are usually a very dark gray (2.5YN3/0, 10YR4/1) but are sometimes brown (10YR4/3) to very pale brown (10YR7/3), and in some cases are reddish yellow (7.5YR6/6).

**Surface Treatment and Decoration:** Sherd exteriors and interiors are smooth and pitted with shallow impressions resulting from the weathered shell temper. All sherds show some signs of weathering on both the exterior and interior surface. Vessel exteriors were smoothed and left undecorated. Exterior surface color is predominantly a very pale brown (10YR7/3) but will range from gray (10YR5/1) to grayish brown (10YR5/2). The grayish colors are probably a result of fire clouds. The colors of the interiors also tend to be a very pale brown (10YR7/3), but range from a very dark gray (10YR3/1) to grayish brown (10YR5/2).

**Form:** The sample of shell-tempered plain sherds recovered at 41HP175 appears to have been from one vessel. Based on body and rim sherd curvatures, the estimated maximum vessel diameter would be about 40 cm, with a rim orifice diameter of 14 cm. Vessel height is estimated to be somewhere between 40 cm and 50 cm. The rim orientation and contour shows that the vessel had a slightly flaring rim with pronounced shoulders. A basal sherd indicates that the vessel had a round base. Wall thickness ranges from 5 mm to 12 mm, with a rim thickness of 4 cm. Overall, the above

measurements would indicate that the vessel was a large globular jar. The other shell-tempered plain sherd recovered from 41HP102N is too small and eroded to suggest vessel form.

### Shell Tempered Burnished

**Ware:** Shell Tempered.

**Frequency:** Two sherds, no rims.

**Provenience:** 41HP175 (Excavation Unit 1, Level 5).

**Principal Identifying Attributes:**

1. Burnished exteriors.
2. Shell-tempered paste.

**Pastes and Inclusions:** Pastes are tempered with crushed shell and cannot be distinguished from other sherds within the Shell Tempered ware. The color of the paste is gray (10YR5/1).

**Surface Treatment and Decoration:** The two sherds representing this category are almost too small to make any definitive statement on surface treatment and decoration. However, they display an exterior surface which seems to have been slipped and then burnished. The slip is gray in color (10YR5/1). The interiors appear to have been unslipped and smoothed. The color of the interiors is a dark gray (10YR4/1).

**Form:** These sherds are too fragmentary to indicate vessel form. However, they are almost identical to one another and undoubtedly represent a single vessel. Sherd thickness varies from 6 mm to 7 mm.

### Shell Tempered Red Slipped

**Ware:** Shell Tempered.

**Frequency:** Three sherds, no rims.

**Provenience:** 41HP175 (general surface).

**Principal Identifying Attributes:**

1. Red-slipped, burnished exterior.
2. Shell-tempered paste.

**Pastes and Inclusions:** Pastes are shell tempered and indistinguishable from other sherds within the Shell Tempered ware. Two sherds have a dark gray (10YR4/1) paste color, while the third has a reddish yellow (7.5YR6/6) paste color.

**Surface Treatment and Decoration:** These sherds are very small (i.e., less than 1.5 cm across); however, it appears that they have been slipped and then burnished. A ferruginous

pigment, such as hematite, was mixed within the slip and then applied. This particular manner of mixing the red pigment into the slip differs from a red-filming technique where the red pigment was rubbed directly into the paste surface of the vessel. A simple test to distinguish a red-slipped surface from a red-filmed surface is to wet a portion of the sherd with water and rub it with a finger. The red-filmed surface will stain the finger more readily with red pigment than the slipped surface. Furthermore, the slipped surface will be thicker and contrast more against the paste than a filmed surface. The color of the slip ranges from a weak (10R4/4) to regular red (10R4/8). On the sherd with the reddish yellow paste, the slip is both on the exterior and interior and is quite pronounced. The other two sherds have a thinner, less pronounced slip, probably due to erosion. The interiors of these sherds are smoothed and are yellowish red (5YR4/6) in color.

**Form:** Nothing can be said about form due to the very small size of the sherds. Nonetheless, it appears that two vessels are represented by these sherds. One vessel was slipped on both the exterior and interior. This vessel is represented by the sherd with the yellowish red paste and is 6 mm thick. The other two sherds appear to represent a vessel which was slipped on the outside and smoothed on the inside. These sherds are 4 mm in thickness.

### Grog Tempered Plain

**Ware:** Grog Tempered.

**Frequency:** Eight sherds, no rims.

**Provenience:** 41HP175 (Trench 1, Level 1 and surface); 41HP171 (South Area, surface); and 41HP160 (10 m south of North Trackhoe Trench, surface).

**Principal Identifying Attributes:**

1. Smoothed exteriors.
2. Grog-tempered paste.
3. Majority of grog is coarse to very coarse in size (0.5-2.0 mm in diameter).

**Pastes and Inclusions:** Pastes are moderately compact and are liberally tempered with pieces of grog which constitute approximately 20% or more of the fabric. The grog pieces themselves are usually coarse (0.5-1.0 mm) to very coarse (1.0-2.0 mm) in size. When looking along fresh



breaks, the paste has a chunky, rough texture. This textural quality is due to the many large pieces of grog which often separate from the remaining paste. The paste is light but fairly hard and durable.

Other than the grog temper, the paste has light to moderate amounts of silt- ( $< 0.063$  mm), to fine- ( $0.125-0.25$  mm) sized grains of quartz and smaller amounts of associated unidentified silicates. The latter appear to be natural inclusions distributed throughout the paste. The color of the paste ranges from black (10YR2/1) to very dark gray (10YR3/1) to dark grayish brown (10YR4/2). The majority of the pastes range from dark to very dark gray in color.

**Surface Treatment and Decoration:** All sherd exteriors and interiors have been smoothed, and for the most part, are quite uniform in finish. One very small sherd from 41HP175 has a small applique fillet which is 10 mm long and 4 mm wide. Exterior surface color ranges from very dark gray (10YR3/1) to brown (10YR5/3) to yellowish brown (10YR5/4) and yellowish red (5YR5/6). Most of the sherd exteriors have a brownish gray hue. The interior surfaces are darker and range from black (10YR2/1) to very dark gray (2.5YR3/0 and 10YR3/1).

**Form:** Sherds in this category are too fragmentary to indicate vessel form. However, several sherds were large enough to get an estimated vessel body diameter. At 41HP175, one sherd had a body diameter of 21 cm and was 6 mm thick. A second sherd had a body diameter of 24 cm and was 6 mm thick. A third sherd, which was from the lower portion of a vessel, had a body diameter of 12 cm and was 11 mm thick. No conclusive statement can be made on the number of vessels represented by this category at 41HP175; however, it appears that the above dimensions reflect several vessels which were medium sized.

The single sherd recovered at 41HP160 had a body diameter of 22 cm and was 12 mm thick. This sherd was from the lower portion of a vessel. The body diameter of this sherd suggests a large vessel.

Another lower body sherd was recovered at 41HP171 and was 10 mm thick. A body diameter could not be estimated for this sherd.

### Grog Tempered Dash Incised Smoothed

**Ware:** Grog Tempered.

**Frequency:** One body sherd.

**Provenience:** 41HP175 (Trench 1, Level 1).

**Principal Identifying Attributes:**

1. Dashed, incised lines on exterior.
2. Smoothed exterior.
3. Grog-tempered paste.
4. Majority of grog is coarse to very coarse in size ( $0.5-2.0$  mm in diameter).

**Paste and Inclusions:** The paste of this sherd is indistinguishable from other sherds of the Grog Tempered ware. The paste color is very dark gray (10YR3/1).

**Surface Treatment and Decoration:** The exterior and interior surface of this sherd have been initially smoothed. It also has two dashed, incised lines on the exterior which were 1 mm wide. The lines were spaced 5 mm apart and were placed in a horizontal position. The exterior surface color is dark gray (10YR4/1) while the interior is very dark gray (10YR3/1).

**Form:** This particular sherd had a body diameter of 21 cm and is 7 mm thick. The sherd probably represents a medium-sized vessel.

### Grog Tempered Burnished

**Ware:** Grog Tempered.

**Frequency:** Six sherds, no rims.

**Provenience:** 41HP175 (Excavation Unit 1, Levels 1, 4, and 5; and general surface).

**Principal Identifying Attributes:**

1. Burnished exteriors.
2. Grog-tempered paste.
3. Majority of grog is coarse to very coarse in size ( $0.5-2.0$  mm in diameter).

**Pastes and Inclusions:** Pastes are tempered liberally with coarse ( $0.5-1.0$  mm) to very coarse ( $1.0-2.0$  mm) pieces of grog and are indistinguishable from other sherds within the Grog Tempered ware. Paste colors range from very dark gray (10YR3/1) to yellowish red (5YR5/6). The majority of the pastes are very dark gray in color.

**Surface Treatment and Decoration:** The exteriors appear to have been self slipped (floated) or slipped with a very thin slip which was levigated from the same clays used for the pastes.

This observation is based on the fact that the overall color of the slip is identical to the paste. The exterior surface colors range from a very dark gray (10YR3/1) to brown (7.5YR3/4) to yellowish red (5YR5/6). The interiors are unslipped and smoothed and have the same color ranges as the exteriors.

**Form:** Sherds in this category are too fragmentary to assess vessel form. However, one sherd was large enough to get a body diameter which was 26 cm. The sherd was 6 mm thick. The remaining sherds ranged from 5-10 mm in thickness. Of these, two are lower body sherds and have thicknesses of 6 mm and 10 mm.

Based on sherd curvature and color, the sherds in this category appear to have been from one vessel. If the body diameter of 26 cm is close to the maximum vessel diameter, this vessel would have been medium sized.

#### **Grog Tempered Wide Incised Burnished**

**Ware:** Grog Tempered.

**Frequency:** One body sherd.

**Provenience:** 41HP175 (Excavation Unit 4, Level 3).

**Principal Identifying Attributes:**

1. Wide incised line on exterior.
2. Burnished exterior.
3. Grog-tempered paste.
4. Majority of grog is coarse to very coarse in size (0.5-2.0 mm in diameter).

**Surface Treatment and Decoration:** The exterior and interior surface of the sherd has been burnished. The sherd exterior also has a wide incised line approximately 3 mm wide and 1 mm deep along its surface. The sherd is very small, but the line appears to have been placed in a horizontal position. The exterior and interior is grayish brown (10YR5/2).

**Form:** This particular sherd is too small to assess vessel shape or size. The sherd may have come from the upper portion of a vessel near the rim, although this is simply speculation. The sherd is 5 mm thick.

#### **Bullard Brushed**

**Ware:** Grog Tempered.

**Chronological Placement:** A.D. 1200-1500

(Suhm and Jelks 1962:21).

**Frequency:** One body sherd (Figure B-1, a).

**Provenience:** 41HP175 (general surface).

**Principal Identifying Attributes:**

1. Vertically brushed exterior.
2. Grog-tempered paste.

**Paste and Inclusions:** Pastes are tempered with grog and are indistinguishable from the other sherds within the Grog Tempered ware. The color of the paste is a very dark gray (10YR3/1).

**Surface Treatment and Decoration:** The sherd exterior exhibits faint, vertical brush marks over the entire surface. The striations are thin, averaging less than 1 mm in thickness and do not go into the surface deeper than 1 mm. A small applied fillet or node is also present on the sherd exterior. The applique piece of clay is 9 mm wide and 17 mm long (intact length), and is raised 4 mm above the surface. The color of the exterior is brown (10YR5/3). The interior has been smoothed and is very dark gray in color (10YR3/1). The interior surface also has several very shallow horizontal depressions showing faint traces of coil junctures which have been smoothed over.

**Form:** The single sherd represents the body portion of a large vessel which had an estimated maximum body diameter of 40 cm. Vessel wall thickness is 7 mm. Unfortunately, the sherd does not give any information regarding the overall shape of the vessel.

#### **Grog Tempered Grit Plain**

**Ware:** Grog Tempered Grit Paste.

**Frequency:** Seventeen sherds, no rims.

**Provenience:** 41HP175 (Trench 1, Level 1; Excavation Unit 4, Level 3; general surface); 41HP102S (Shovel Test 10, Level 1); 41HP102N (Shovel Test 13, Level 1); 41HP162 (Trench 14, Level 1).

**Principal Identifying Attributes:**

1. Smoothed exteriors.
2. Grit paste tempered lightly with grog.

**Paste and Inclusions:** Pastes are compact and have moderate amounts of grog which constitute no more than 20% of the fabric. The grog varies from medium- (0.25-0.5 mm) to very coarse- (1.0-2.0 mm) sized pieces. Other than grog, pastes have higher quantities of quartz and other associated unidentified silicate grains (20-40%)

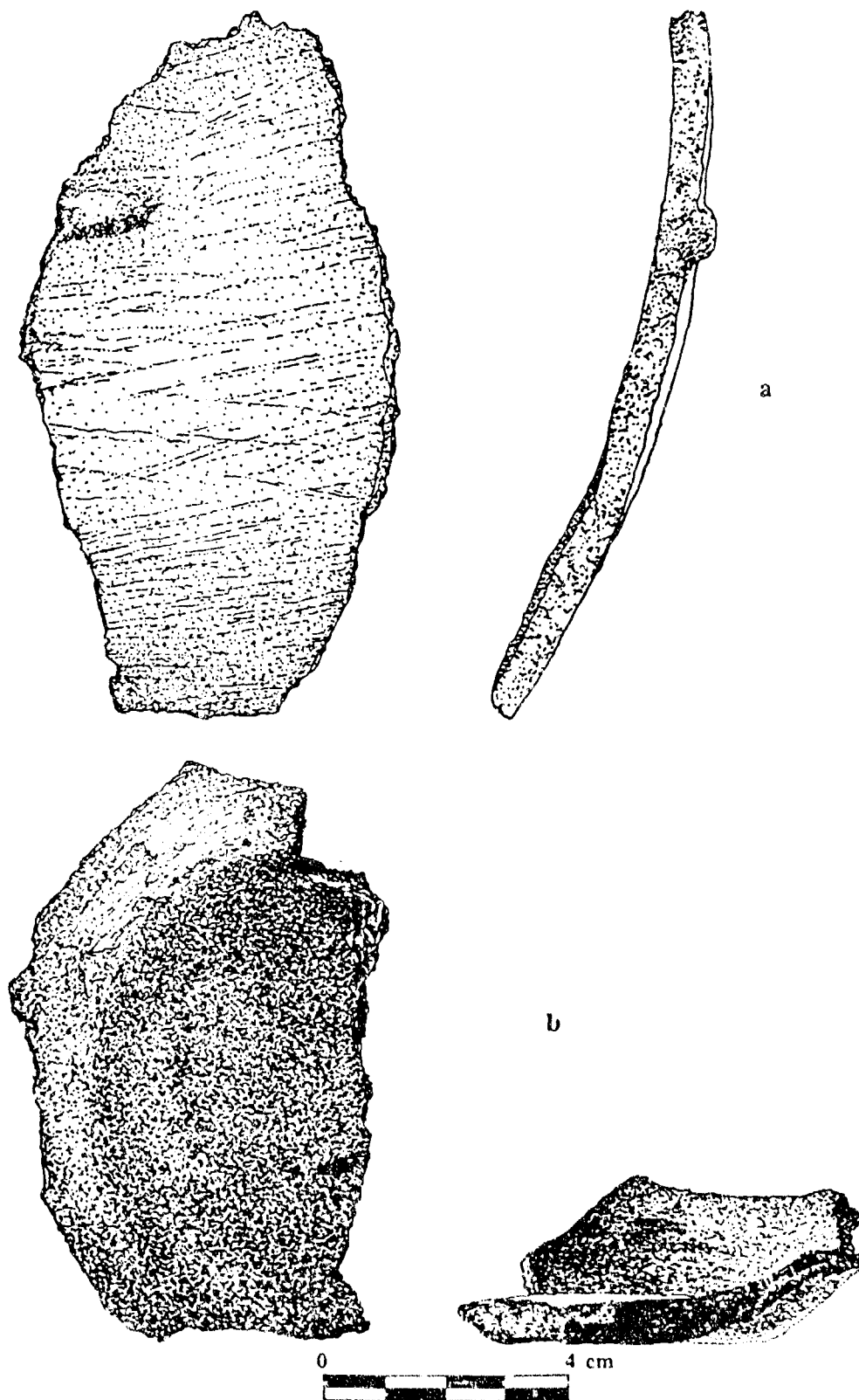


Figure B-1. Ceramic artifacts from site 41HP175: a, Bullard Brushed body sherd; b, Grog Tempered Grit Red Filmed basal sherd.

which vary in size from silts ( $< 0.063$  mm) to medium sand (0.25-0.5 mm). As a result, sherds usually have a slight sandy feel when the surfaces are rubbed. Both round and angular quartz grains occur in the clay fabric.

Due to the lack of large quantities of grog, fresh breaks on sherds of this group will not cleave along grog chunks like pastes of the Grog Tempered ware. Instead, sherds have smoother and sharper edges which do not look as crumbly. Pastes are hard, but tend to weather a little on the surface due to the higher amounts of sand.

Paste colors range from black (10YR2/1) to very dark gray (10YR3/1) to gray (10YR5/1) to brown (10YR5/3 and 7.5YR5/6). The predominant color of the pastes are either dark or very dark gray.

**Surface Treatment and Decoration:** All sherd surfaces have been smoothed and are uniform in finish. It is possible that some of the more weathered sherds actually had burnished surfaces, but are now smoothed. The color of the exteriors range from very dark gray (10YR3/1) to brown (10YR5/3 and 7.5YR5/6) to light yellowish brown (10YR6/2) and pale brown (10YR6/3). The majority of the surfaces are either light gray or brown in color.

Two sherds from 41HP175 had applique fillets on their exteriors. These particular sherds are small in size ( $< 22$  mm in length) and appear to be from the same vessel. The fillets are 16 mm long (intact length) and 10 mm wide, and are raised 3 mm above the surface.

Almost all of the interiors are smoothed, but the two sherds with fillets have been burnished. The color of the interiors does not vary significantly from the exteriors and falls within the same color range.

**Form:** Nothing definitive pertaining to form can be said about this particular sample of sherds. However, three sherds from 41HP175 did yield vessel body measurements. Two sherds have a body diameter of 26 cm and 42 cm and appear to be from two different vessels. The smaller vessel would have been medium sized, while the latter would have been a large vessel. The thickness of these sherds was 6 mm and 9 mm, respectively. The third sherd is a lower body sherd with a diameter of 14 cm and is 6 mm thick. The two sherds with the fillets appear to have come from a

narrow-necked vessel which had slight shoulders. The sherd thickness on these pieces is 5 mm and 6 mm, respectively.

Three flat basal fragments from 41HP175 were also recovered, with thicknesses of 5 mm, 7 mm, and 10 mm, respectively; therefore, there were perhaps three separate vessels of this provisional type present here, all created in a style with flat bases.

Nothing can be said regarding vessel shape or size from the other three sites. However, the single sherd recovered at 41HP102S and the two from 41HP102N were 7 mm thick, while the four sherds from 41HP171 were from 4-9 mm thick.

### Grog Tempered Grit Burnished

**Ware:** Grog Tempered Grit Paste.

**Frequency:** Twenty sherds, including one rim.

**Provenience:** 41HP175 (Excavation Unit 1, Levels 1, 3-5; Excavation Unit 4, Level 2; Trench 1, Level 1; and general surface).

**Principal Identifying Attributes:**

1. Burnished exteriors.
2. Grit paste tempered lightly with grog.

**Pastes and Inclusions:** Pastes are lightly tempered with grog and are indistinguishable from other sherds within the Grog Tempered Grit Paste ware. Paste colors range from black (2.5YN2/0), to very dark gray (2.5YN3/0, 10YR3/1, and 7.5YRN3/0) to light gray (10YR6/1) to dark grayish brown (10YR4/2) and grayish brown (10YR5/2) to light yellowish brown (10YR6/4). The majority of the pastes are very dark gray in color.

**Surface Treatment and Decoration:** Sherd exteriors have a thin self slip or slip levigated from the same clays used to produce the pastes. Often, patches of the exposed paste can be seen through the thin slipped surface of the sherd. The exterior of the sherds is always burnished and will vary in luster from a silk-like finish to a semi-high gloss. If not badly weathered, the sherd surfaces usually have an even finish. The exterior surface color ranges from very dark gray (2.5YN3/0 and 10YR3/1) to grayish brown (10YR5/2) and pale brown (10YR6/3). One sherd has a series of striations on the exterior. These striations do not

appear to be brush marks and may have been inadvertently produced.

The majority (76%) of the interiors are burnished, although 24% have been smoothed. The interior surface color of the sherds is similar to the color of the exteriors; however, they tend to be more gray.

**Form:** Seven sherds were large enough to estimate vessel body diameters. One of these sherds is from the lower part of a vessel and has a diameter of 12 cm. This particular sherd is 6 mm thick. The remaining six sherds have diameters of 20 cm, 24 cm, 26 cm (two sherds), 28 cm, and 30 cm. These sherd diameters would suggest that the vessels were medium in size. Overall sherd thicknesses (which range from 5-8 mm) indicate that the vessel walls were uniform and thin.

One rim sherd was found, yet it was too small to estimate anything about vessel shape. The rim was thinned in profile with a top measurement of 4 mm and bottom of 5 mm. It has a rounded lip which was left undecorated. When the rim is oriented in its correct position, it depicts a vessel with upright wall at the top.

Some of the sherds appear to be from one vessel. However, at least two to three, if not more, vessels are represented in this sample.

#### **Grog Tempered Grit Engraved**

**Ware:** Grog tempered Grit Paste.

**Frequency:** One body sherd.

**Provenience:** 41HP175 (Excavation Unit 4, Level 3).

##### **Principal Identifying Attributes:**

1. Engraved exterior.
2. Slipped and burnished exterior.
3. Grit paste tempered lightly with grog.

**Paste and Inclusions:** The paste of this sherd is like the other sherds within the Grog Tempered Grit Paste ware. The color of the paste is very dark gray (10YR3/1).

**Exterior Surface Treatment:** The exterior surface of this particular specimen has been slipped and burnished. The exterior surface also has a very thin engraved line which is less than 1 mm thick. When the sherd is oriented in its correct position, the engraved line is vertical and is 17 mm long and spans the entire length of the

sherd. The exterior surface color is dark reddish gray (5YR4/2). The interior has been smoothed and is black (2.5YR2/2).

**Form:** The sherd diameter is 10 cm, and it is likely that this specimen is from the neck of a bottle.

#### **Grog Tempered Grit Red Filmed**

**Ware:** Grog Tempered Grit Paste.

**Frequency:** Three sherds, including one rim (see Figure B-1, b).

**Provenience:** 41HP175 (general surface) and 41HP171 (general surface).

##### **Principal Identifying Attributes:**

1. Red-filmed exteriors.
2. Grit paste tempered lightly with grog.

**Pastes and Inclusions:** Pastes are indistinguishable from the other ceramics of the Grog Tempered Grit Paste ware. Paste colors for these particular sherds vary from a very dark gray (2.5YR3/2) to grayish brown (10YR5/2) to very dark brown (10YR3/2).

**Surface Treatment and Decoration:** Exteriors have been slipped with the addition of red pigment which has been rubbed into the surface. It appears that the red pigment was applied directly on the surface of the vessel and not mixed into a prepared slip. This observation is based on the fact that the red finish will wash off easily if the surface is wet. After the red pigment is applied to the exteriors, they are then burnished. The one rim sherd recovered may represent a plain, undecorated red-filmed vessel. The colors of the exteriors range from red (2.5YR5/6, 10R4/8, and 10R5/6) to weak red (10R4/4).

The interiors are either red filmed and burnished, or smoothed. The colors of the filmed interiors are red (2.5YR4/6 and 10R4/8). The color of the smoothed interior is brown (10YR5/3).

**Form:** The one rim sherd recovered from 41HP171 represents a shallow, carinated bowl with an orifice diameter of 24 cm. Estimated vessel height would be ca. 10 cm. The lip on the bowl was round and decorated with tick marks on the outer edge. Both the interior and exterior surfaces of the bowl were red filmed.

The other sherds from 41HP175 are too small, and do not indicate vessel shape or size.

### Avery Engraved

**Ware:** Grog Tempered Grit Paste.

**Chronological Placement:** 1400-1700 A.D. (Suhm and Jelks 1962:3).

**Frequency:** One body sherd (Figure B-2, b).

**Provenience:** 41HP175 (general surface).

**Principal Identifying Attributes:**

1. Engraved ladder-like decoration and associated parallel lines on exterior.
2. Red-filmed exterior.
3. Burnished exterior.
4. Grit paste tempered lightly with grog.

**Pastes and Inclusions:** The paste of this specimen is indistinguishable from other sherds of the Grog Tempered Grit Paste ware. Paste color is dark gray (10YR4/1).

**Surface Treatment and Decoration:** The exterior has been red filmed and then burnished. This particular sherd has a portion of a distinctive ladder-like decorative motif which was engraved diagonally on the surface of the vessel, probably near the top. The ladder design is 4.5 mm wide, and the rungs have been spaced approximately 4 mm apart from one another. On either side of the ladder motif are singular engraved lines spaced 12 mm apart. These singular engraved lines (1 mm wide) are parallel to the ladder motif. Another 12 mm away from one of these singular engraved lines is another remnant of a ladder motif. The overall decorative effect of this sherd is very similar to an Avery Engraved vessel depicted in Suhm and Jelks (1962:4, Plate 2, specimen I).

The color of the exterior is red (10R4/8). The surface of the paste within the engraved lines is a light red (10R6/8). The interior has also been red filmed and is red in color (10R4/8).

**Form:** This particular sherd has a body diameter of 22 cm and is 7 mm thick. When the sherd is oriented in its correct position, it indicates that the vessel was vertically walled. Based on the sherd orientation and body diameter, this particular vessel was probably a medium-sized, deep-sided bowl (ca. 20 cm in height).

### Poynor Engraved

**Ware:** Grog Tempered Grit Paste.

**Chronological Placement:** A.D. 1200-1600 (Suhm and Jelks 1962:125).

**Frequency:** One rim sherd (see Figure B-2, c).

**Provenience:** 41HP175 (Trench 1, 2 m below surface).

**Principal Identifying Attributes:**

1. Engraved ovoid or curved designs bordered with horizontal lines.
2. Slipped and burnished exterior.
3. Grit paste tempered lightly with grog.

**Pastes and Inclusions:** Same as other ceramics within the Grog Tempered Grit Paste ware. This particular sherd has a dark gray paste (10YR4/1). **Surface Treatment and Decoration:** The exterior has been slipped and then burnished. This particular rim sherd has a number of engraved lines (approximately 1 mm in width) which are curved and straight. The curved lines consist of two series of double lines which are diagonally placed on the sherd. The two series of curved lines are also off-set diagonally and opposed to one another. Below each of these lines are single horizontal lines. The execution of the engraved lines is rather crude and imprecise, which is also a characteristic of this type (Suhm and Jelks 1962:123).

The exterior surface color is a pale brown (10YR6/3) with some very dark gray (10YR3/1) fire clouds. The interior is smoothed and is very pale brown in color (10YR7/3).

**Form:** The rim sherd seems to depict a medium-sized, shallow-walled jar (less than 10 cm in height, with vessel walls 6 mm thick) which had a maximum vessel diameter of 20 cm. This particular vessel had slight shoulders with a slightly everted rim. The rim is thinned and the juncture of the lip is 3 mm thick. The lip is round and was undecorated.

### Ripley Engraved

**Ware:** Grog Tempered Grit Paste.

**Chronological Placement:** A.D. 1200-1500 (Suhm and Jelks 1962:127).

**Frequency:** One body sherd (see Figure B-2, a).

**Provenience:** 41HP175 (Trackhoe Trench, 1.2 m below surface).

**Principal Identifying Attributes:**

1. Engraved exterior depicting concentric circles with spikes.

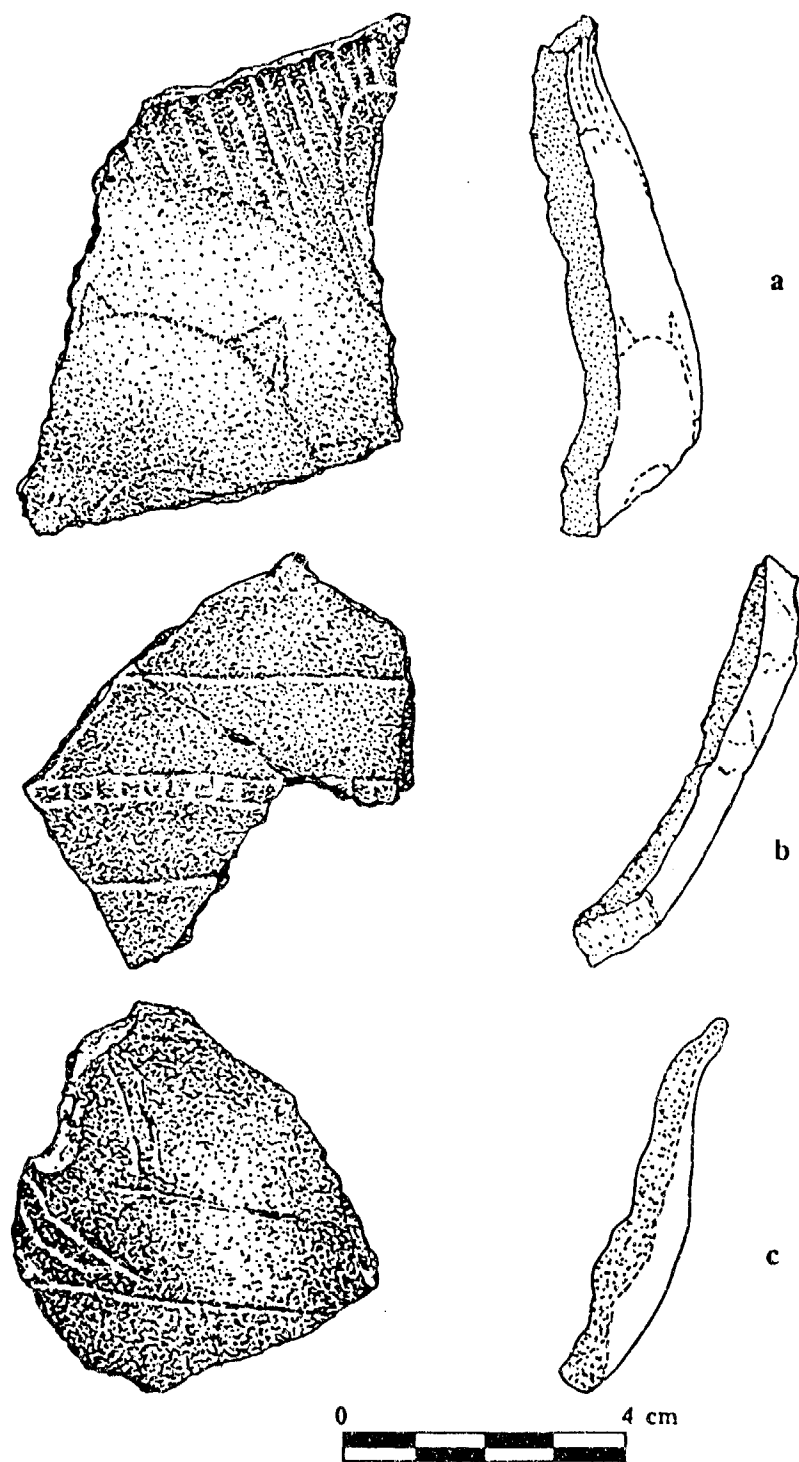


Figure B-2. Ceramic artifacts from site 41HP175: a, Ripley Engraved body sherd; b, Avery Engraved body sherd; c, Poyner Engraved rim sherd.

2. Slipped and burnished exterior.
3. Grit pastes tempered lightly with grog.

**Pastes and Inclusions:** Same as other ceramics within the Grog Tempered Grit Paste ware group. The paste color of this particular sherd is very dark brown (10YR3/2).

**Surface Treatment and Decoration:** The exterior surface has been slipped and then burnished. The engraved portion on the sherd depicts three concentric circles (the outermost 10 cm, the second 7 cm, and the innermost 4 cm). The second innermost circle has triangular spikes on the outer edge. These triangular spikes are spaced 15 mm apart from one another and are 8 mm wide by 8 mm tall. On the edge of the outermost circle is a series of diagonal lines spaced 4 mm apart from one another. Within these lines is the end portion of a zoned curvilinear motif. The diagonal lines do not pass through this motif. The engraved lines themselves are 1 mm wide.

The exterior surface (slip) of this sherd is light gray (10YR7/2) with some dark gray (10YR4/1) fire clouds. This light gray color of the slip looks very different from the paste, perhaps indicating that the slip was not produced from the same clays used for the paste.

The interior has also been slipped and burnished and is dark gray (10YR4/1) in color. The interior surface undulates, perhaps showing paddle and anvil marks.

**Form:** The flatness of this particular sherd and the size of the designs indicate that the vessel was quite large with walls 7 mm thick. The slightly curved inflections of the sherd suggest that the vessel may have been a jar with very slight shoulders.

#### **Grog and Bone Tempered Grit Plain**

**Ware:** Grog and Bone Tempered Grit Paste.

**Frequency:** Three sherds.

**Provenience:** 41HP166 (Shovel Test 4) and 41HP171 (general surface).

#### **Principal Identifying Attributes:**

1. Smoothed exterior.
2. Grit paste tempered lightly with grog and bone.

**Pastes and Inclusions:** Concerning amounts

of grog and quartz inclusion, this specimen does not vary from other ceramics of the Grog Tempered Grit Paste ware. The predominate aplastic inclusions in this paste are very fine- (0.063-0.125 mm) to medium-sized (0.25-0.5 mm) grains of quartz. The paste also has been lightly tempered (constituting less than 20% of the fabric) with bits of grog that are medium sized (0.25-0.5 mm) to very coarse (1.0-2.0 mm). However, this paste will include small amounts (less than 10% of the fabric) of bone ranging from very coarse- (1.0-2.0 mm) to medium-sized (0.25-0.5 mm) bits. From this one sample, the color of the paste is grayish brown (10YR5/2).

**Surface Treatment and Decoration:** The exterior surface has been smoothed, and white pieces of bone are very visible. The exterior color of these sherds is yellowish red (5YR5/6). The interior surface has also been smoothed and has a brown color (7.5YR5/4). Some bone also appears on the interior surface.

**Form:** One of the sherds from 41HP166 is part of the lower portion of a vessel and is 11 mm thick. Based on the curvature of the lower body sherd, it is possible that this vessel had a round base. The other sherd from 41HP171 is less than 1 cm in length and is too small for any shape or size estimate. This sherd is 8 mm thick.

#### **Grog and Bone Tempered Grit Red Slipped**

**Ware:** Grog and Bone Tempered Grit Paste.

**Frequency:** One basal sherd.

**Provenience:** 41HP175 (North Trackhoe Trench).

#### **Principal Identifying Attributes:**

1. Red-slipped exterior.
2. Grit paste lightly tempered with grog and bone.

**Pastes and Inclusions:** The paste of this specimen does not vary significantly from the other sherd in the Grog and Bone Tempered Grit Paste ware. However, bone particles in this sherd are fewer and tend to be medium sized (0.25-0.5 mm). The paste color is red (2.5YR5/6).

**Surface Treatment and Decoration:** The exterior surface had been slipped and burnished. The slip is relatively thick and has come off in patches on some portions of the surface. Red



pigment (possibly hematite) has been mixed in with the slip, creating a red color (2.5YR5/6) when fired. No visible decorations are on the exterior surface of the sherd. The exterior has not been slipped, but has been slightly burnished. Burnished facets ca. 1.5 mm show up on the interior surface. The interior surface color is very dark gray (7.5YRN3/0).

**Form:** The basal sherd represents a flat-based vessel which was 10 cm in diameter at the bottom. The base of the sherd is 8 mm thick. The vessel walls are slightly thinner (6-7 mm thick) and flare out from the base at an angle of 130°. The walls do not join the base with a coil juncture, but appear to have been formed out of the flat bottom. The walls on this particular specimen only go an additional 2 cm above the base. Therefore, the overall size and shape of the vessel cannot be ascertained.

#### **Sandy Paste Engraved**

**Ware:** Sandy Paste.

**Frequency:** One body sherd.

**Provenience:** 41HP102N (Shovel Test 13).

**Principal Identifying Attributes:**

1. Engraved exterior.
2. Burnished exterior.
3. Sandy paste.

**Pastes and Inclusions:** The paste of this sherd has quantities of silt-sized (<0.063 mm) to very fine (0.063-0.125 mm) grains of quartz. These quartz inclusions take up more than 30% of the bulk of the fabric. The paste has a sandy texture and is quite friable due to the large amounts of quartz grains. No other visible pieces of mineral or grog are present in the paste. The paste color is brown (10YR5/3). An eroded sherd of the same paste was also located at 41HP102S. This sherd was found in Excavation Unit 1, Feature 1, 20-30 cm below the surface.

**Surface Treatment and Decoration:** The surface appears to have been self slipped and then burnished. The slip is very thin and is the same color (10YR5/3) as the paste. A very fine, straight engraved line is present on the exterior surface of the sherd. It is less than 0.5 mm in width and depth. The interior appears to have been smoothed and is the same color as the exterior.

**Form:** This sherd is too small for any

assessment of vessel shape or size. The sherd is 4 mm thick.

## **CONCLUSIONS**

Based on the analysis, the dominant ceramic ware group was Grog Tempered Grit Paste, which accounted for 51.2% (n=44) of all of the ceramics analyzed (total sherds analyzed n=86). Following this group was Shell Tempered Ware at 22.1% (n=19), and Grog Tempered at 19.8% (n=17). The remaining ware groups, Grog and Bone Tempered Grit Paste and Sandy Paste, accounted for 4.6% (n=4) and 2.3% (n=2), respectively (Table B-1).

Site 41HP175 accounted for 81.5% (n=70) of all analyzed sherds, of which 51.4% were Grog Tempered Grit Paste, followed by Shell Tempered (25.7%), Grog Tempered (21.4%), and Grog and Bone Tempered Grit Paste (1.4%). Likewise, site 41HP171, which contained the second largest assemblage of sherds (consisting of 8.1% of the total analyzed sherds) included Grog Tempered Grit Paste (71.4%; n=7), followed by Grog Tempered (14.3%), and Grog and Bone Tempered Grit Paste (14.3%). Site 41HP102N contained only three sherds consisting of one Shell Tempered, one Grog Tempered Grit Paste, and one Sandy Paste sherd. Site 41HP102S contained only two sherds, one of which was Grog Tempered Grit Paste and the other a Sandy Paste sherd. Site 41HP166 also contained two sherds, both of which were composed of Grog and Bone Tempered Grit Paste. The single sherd analyzed at 41HP160 was Grog Tempered, and the single specimen at 41HP162 was a sherd of Grog Tempered Grit Paste.

The leading provisional type overall was Grog Tempered Grit Burnished which accounted for 23.2% of all the analyzed sherds. This was followed by Grog Tempered Grit Plain at 19.7%, Shell Tempered Plain at 16.3%, Grog Tempered Plain at 9.3%, and Grog Tempered Burnished at 7.0%. The provisional types, Shell Tempered Red Slipped, Grog Tempered Grit Red Filmed, and Grog and Bone Tempered Grit Plain, each consisted of 3.5% of the analyzed sherds, while Shell Tempered Burnished accounted for 2.3%. All of the remaining provisional types

TABLE B-1

Distribution of Ceramic Paste Groups and Types from Six Archaeological Sites  
in the Delivery Order Number 6 Study Area at Cooper Lake

	HP175	HP102S	HP102N	HP171	HP160	HP165	HP162	Total
<i>Shell Tempered</i>								
Plain	13	—	1	—	—	—	—	14
Burnished	2	—	—	—	—	—	—	2
Red Slipped	3	—	—	—	—	—	—	3
Subtotal	18	—	1	—	—	—	—	19
<i>Grog Tempered</i>								
Plain	6	—	—	1	1	—	—	8
Dash Incised Smoothed	1	—	—	—	—	—	—	1
Burnished	6	—	—	—	—	—	—	6
Wide Incised Burnished	1	—	—	—	—	—	—	1
Bullard Brushed	1	—	—	—	—	—	—	1
Subtotal	15	—	—	1	1	—	—	17
<i>Grog Tempered Grit</i>								
Plain	10	1	1	4	—	—	1	17
Burnished	20	—	—	—	—	—	—	20
Engraved	1	—	—	—	—	—	—	1
Red Filmed	2	—	—	1	—	—	—	3
Avery Engraved	1	—	—	—	—	—	—	1
Poyner Engraved	1	—	—	—	—	—	—	1
Ripley Engraved	1	—	—	—	—	—	—	1
Subtotal	36	1	1	5	—	—	1	44
<i>Grog and Bone Tempered Grit</i>								
Plain	—	—	—	1	—	2	—	3
Red Slipped	1	—	—	—	—	—	—	1
Subtotal	1	—	—	1	—	2	—	4
<i>Sandy Paste</i>								
Engraved	—	—	1	—	—	—	—	1
Eroded	—	1	—	—	—	—	—	1
Subtotal	—	1	1	—	—	—	—	2
Total	70	2	3	7	1	2	1	86

(represented by one sherd apiece) each accounted for 1.2% of the analyzed sherds.

On an individual site basis, the modal provisional type on 41HP175 (total  $n=70$ ) was Grog Tempered Grit Burnished (28.6%), followed by Shell Tempered Plain (18.6%), Grog Tempered Grit Plain (14.3%), Grog Tempered Plain (8.6%), Grog Tempered Burnished (8.6%), Shell Tempered Red Slipped (4.3%), Grog Tempered Grit Red Filmed (2.8%), and single occurrences of Grog Tempered Dashed Incised, Grog Tempered Wide Incised, Bullard Brushed, Grog Tempered Grit Engraved, Avery Engraved, Ripley Engraved, and Grog and Bone Tempered Grit Red Slipped, each consisting of 1.4% of all the analyzed ceramics there.

At 41HP171 (total sherds  $n=7$ ), the dominant provisional type was Grog Tempered Grit Plain at 57.1%. This was followed by the single occurrences of Grog Tempered Plain, Grog Tempered Grit Red Filmed, and Grog and Bone Tempered Grit Plain, each consisting of 14.3% of the analyzed sample. At 41HP102N (total sherds  $n=3$ ), there was one Shell Tempered Plain, one Grog Tempered Grit Plain, and one Sandy Paste Engraved sherd. The assemblage from 41HP102S was split with one Grog Tempered Grit Plain and one eroded Sandy Paste sherd, not discussed in this section. The assemblage from site 41HP166 included two examples of the Grog and Bone Tempered Grit Plain type. The assemblage from 41HP160 consisted of one Grog Tempered Plain, and 41HP162 consisted of one Grog Tempered Grit Plain sherd.

A total of four established types was recovered, all found at 41HP175. Bullard Brushed has a rough span of use from A.D. 1200 to 1500 and has been associated with Titus Focus components (Suhm and Jelks 1962:21). It is primarily found along the Neches and upper Sabine drainage areas, but is also found in the Sulfur River Basin as well (Suhm and Jelks 1962:21). Avery Engraved is associated with the McCurtain and Texarkana foci and has an estimated age between A.D. 1400 and 1700 (Suhm and Jelks 1962:3). Its geographic distribution ranges from the Red River in north-central Texas to the Great Bend area, and it is noted as a common trade ware (Suhm and Jelks 1962:3). Suhm and Jelks also note that the clay-grit variety (for lack of a better term) is more

common in the Texarkana Focus (Suhm and Jelks 1962:3). Poynor Engraved has a temporal span between A.D. 1200 and 1600 and is exclusively associated with the Frankston Focus in the Angelina River drainage area (Suhm and Jelks 1962:123). However, this type has been noted in areas of north-central Texas as a trade ware (Suhm and Jelks 1962:123). A Poynor Engraved sherd was also recently recovered at 41DT111 in the Cooper Lake area (Cliff, Perttula, and Winchell 1993:B-46). Ripley Engraved has an estimated age from roughly A.D. 1200 to 1500 and is associated with the Titus Focus (Suhm and Jelks 1962:127). It is also reported as a common type in Hopkins County (Suhm and Jelks 1962:127).

Based on the above established types, the ceramic component at 41HP175 has a possible occupational span ca. A.D. 1200-1700. This would place the age of the site beginning sometime within the Caddo II period and ending sometime within the Caddo IV period just prior to European contact. It is possible that 41HP175 represents several short-term occupations which accumulated over a period of several hundred years. Furthermore, the established types indicate a strong influence from Titus Focus occupations just to the south of the Cooper Lake area. It is possible that Caddo groups further north, perhaps along the Red River, were in contact with inhabitants at this site, but these established types do not seem to match very closely with comparable types along the Great Bend area (Frank F. Schambach, personal communication 1989). The presence of shell-tempered ceramics (presumably not of the Nocona Plain type) also suggest some influence from the Red River area north of Cooper Lake where it is very common, such as at the Sam Kaufman site (Skinner, Harris, and Anderson 1969:48-66).

The other six sites did not yield any diagnostic ceramics, and their overall sherd counts were very meager. It is especially disappointing that the Arnold site (41HP102N and 41HP102S) failed to produce a large ceramic assemblage. However, the two sandy paste sherds recovered there (and noted in this report) do confirm that sandy paste ceramics were present in the Cooper Lake area, probably associated with the Early Ceramic period.

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